Global Academic Competencies for Health Information Professionals

GHWC

GLOBAL HEALTH WORKFORCE COUNCIL

Global Academic Curricula Competencies for Health Information Professionals

June 30, 2015

AHIMA FOUNDATION

AHIMA American Health Information Management Association®

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

INTERNATIONAL TRADE ADMINISTRATION

The work reported in this publication was supported by the International Trade Administration/ Market Development Cooperator Program of the U.S. Department of Commerce under Award Number IT13MAS1120001. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Department of Commerce.

Foreword:

This document, *Global Academic Curricula Competencies for Health Information Professionals*, is a resource for academic programmes and workforce development efforts across health information professions worldwide, including Health Information Management (HIM), Health Informatics (HI), and Health Information and Communication Technologies (HICT). The emerging body of knowledge around Information Governance in the healthcare ecosystem anchors the entirety of the health information professions.

Why is This Important:

High-quality, accessible, and usable information is the lifeblood of effective and integrated health systems. Governments worldwide are developing health information strategies with this vision in mind, and vast sums of money are being spent on the technologies and infrastructures necessary to achieve quality information availability, sharing, and use in real time. Lack of an adequately trained workforce is often the limiting factor for realizing the full potential of HICT adoption.[i,ii, iii] To effectively elevate the health information professions,[iv,v,vi,vii] international education and training standards are needed. The increasing complexity of integrated systems demand a trained workforce grounded in an academic foundation. No single, individual health information profession owns the full spectrum of skills and competencies for health information generation, use, management, and exchange. The health information professions outlined in this effort recognise the interdisciplinary nature and collaborative environment of health information practices that support patient, provider, and population needs.

Why Global:

Although admirable efforts to develop HIM/HI/HICT workforce capacities on a national basis are underway in some countries, several factors make it important to plan globally. The increasing movement of personnel, patients, and data across national boundaries, and the need for effective information governance, monitoring, documenting, and reporting diseases on a global level are but a few of these factors. In this environment, universal understanding of health information, health information systems, and job role specifications are vital for creating shared knowledge arising from health information across the globe. Information technology (IT) standards themselves have been accepted as a means of facilitating the global digital economy, and this curricula project attempts the same type of standardization in the formal education and workforce preparation of health information professionals.

Why Focus on Skills:

The origins of this document lie in the United States government's interest in enhancing skills-based learning to strengthen the workforce and thus the economy; an aim that is shared across Europe and worldwide. This document recognises that while university curricula are often strong in their use of interdisciplinary concepts and theory, they may not solely and fully represent the practical needs of organisations on the ground or produce workplace-ready graduates. Large investments, both public and private, are made annually across the globe on health information technology/eHealth tools and systems. To augment the benefits these tools and systems bring to the healthcare ecosystem, corresponding methods to ensure an appropriately trained health information workforce are critical. These global competencies are primarily intended to guide organisations responsible for teaching practical skills, supporting information and knowledge generation and preservation across the educational trajectory through college, university, and in the workplace.

Aims:

Through a phased approach, the aim of this initiative is to develop recommendations for workforce strengthening through academic and workforce competencies for the health information professions - HIM, HI, and HICT - to ensure appropriate information governance throughout the healthcare ecosystem.

The work produced under the auspices of this initiative is separated into three phases of work. Phase 1 focusedon academic curricula competencies, Phase 2 on supplementary workforce materials, and Phase 3 on supporting both academicians and practitioners in the health information professions. This document reflects the academic curricula competencies (Phase 1). Infrastructure guidance, maturity assessment and role mapping resources were developed in Phase 2. Phase 3, commencing in February 2016 and concluding in October 2016, is focused on supplementary materials to support ongoing success and curricula adoption.

Which Information Professions are Included?

It is important to provide definitions of each of the core professions of HIM, HI, and HICT. The GHWC recognises that other definitions exist, that these professions are fluid and overlapping, and that hybrid roles are becoming increasingly common. (Figure 1)

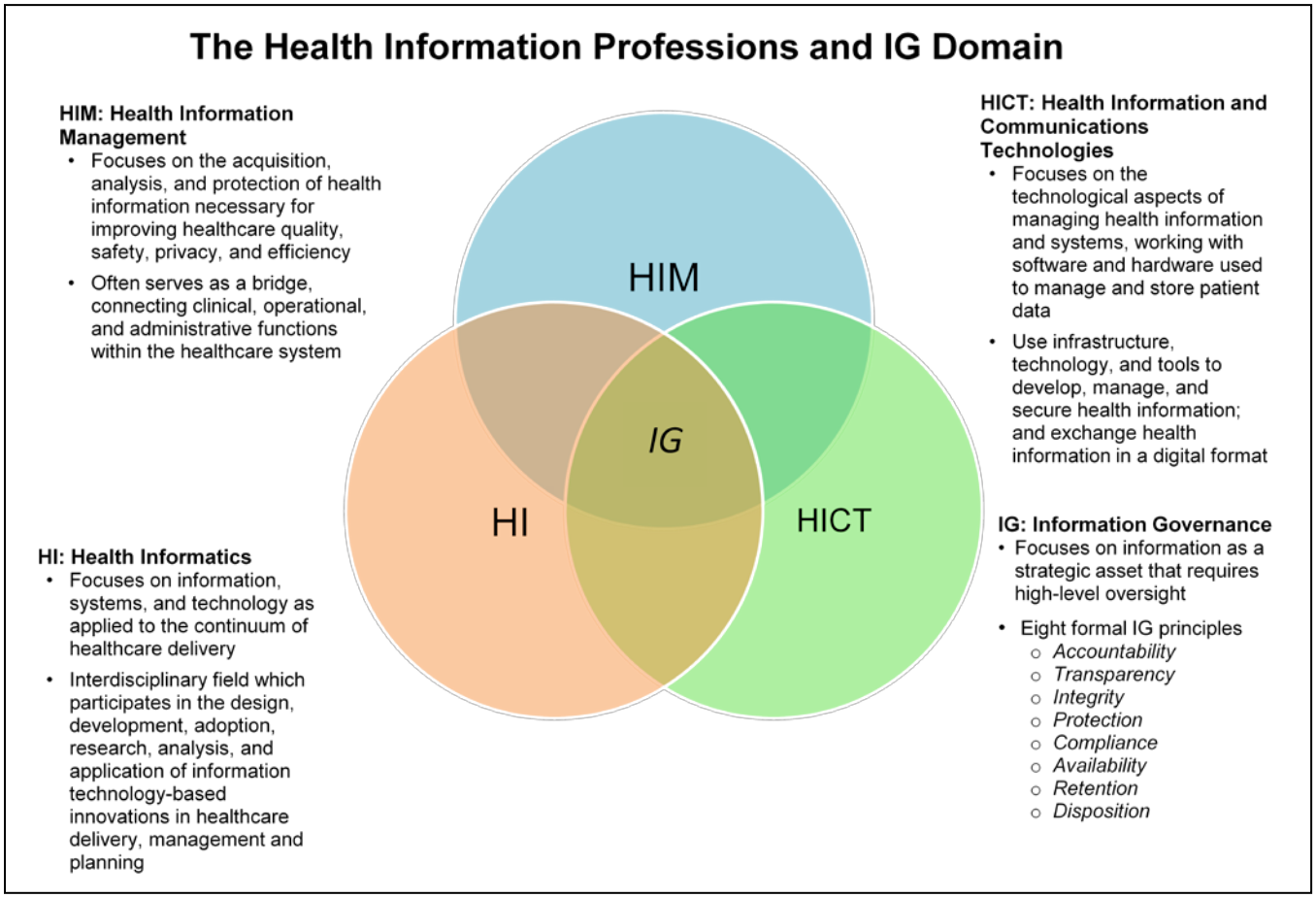


Figure 1: The Health Information Professions and IG Domain

About the Global Health Workforce Council:

The Global Health Workforce Council (GHWC) is an international and interdisciplinary panel of experts and practitioners working across the health information professions, including Health Information Management, Health Informatics, and Health Information and Communications Technology. The GHWC was formed by the American Health Information Management Association (AHIMA) in 2013 under a grant award from the U.S. Department of Commerce.[viii] The fourteen-member Council is comprised of individuals filling various roles and possessing health information expertise, and includes representation from each of the six World Health Organisation (WHO) regions. In planning the launch of the GHWC and development of the global curricula, AHIMA recognises the support and expertise of the International Medical Informatics Association (IMIA), International Federation of Health Information Management Associations (IFHIMA), the Irish Computer Society (ICS), and interested individuals from across the international communities of health information practice, guided the development of the curricula competencies through an iterative process of design and re-design until relative consensus was reached.

Acknowledgements:
The focus of AHIMA's 2013 grant award from the U.S. Department of Commerce,[ix] is on equipping the future e-health workforce through the development of global curriculum standards. This funding supports the operations of the GHWC,[x] a group charged with the development and oversight of health information curricula competencies.

AHIMA's partners on the grant include its 501(c)3 charitable affiliate, the AHIMA Foundation, which provides academic program visioning/leadership and support for the GHWC; and IFHIMA.

Genesis and Foundational Competency Sources:
The following resources were used in developing the global competencies:

- AHIMA Foundation's Council on Excellence in Education 2014 associate, baccalaureate, and graduate degree Health Information Management competency maps[xi]
- IFHIMA Health Information Management Curricula
- EU-US eHealth Workforce Development Workgroup Initiative[xii, xiii]
- Recommendations of IMIA on Education in Biomedical and Health Informatics (First Revision)[xiv]
- Texas Health Information Technology Higher Education Inventory Report[xv]
- Australian Health Informatics Education Council, Health Informatics Scope, Careers, and Competencies, Version 1.9, November 2011[xvi]
- Health Information Management Association of Australia, Entry Level Competency Standards version 2.0, January 2013[xvii]
- Canadian Health Information Management Association's Learning Outcomes for Health Information Management Diploma/Degree programs (2010)[xviii]
- European e-Competence Framework 3.0[xix]

Overview:
As e-health technologies expand globally, human resources are the most critical prerequisite for the implementation and on-going management of health information, communication, and technologies. Healthcare systems require a well-trained and highly-skilled workforce. To ensure that this workforce is available, a comprehensive HIM/HI/HICT healthcare education and workforce strategy is needed, beginning with solid academic curricula standards to guide post-secondary education.

Many countries and regions have recognised the need for an infrastructure to train, hire, and deploy health information professionals to support their healthcare systems and e-health strategies.[xx] This document provides a valuable resource in identifying the core competencies for the professions and supporting the development of related academic programmes. For those countries and regions with established health information professions and associated curricula, this document may be a useful resource for future updates and program expansion.

Scope:
This document identifies academic competencies for the health information professions, comprised of three overarching areas that represent a practice, a science, and a technical infrastructure.[xxi] Central to all of these professions is the emerging role that Information Governance plays in the expanding health information arena. Information Governance recognises that like other critical organisational assets - people, capital, inventory - information is a strategic asset that requires high level oversight in order to be able to effectively use it for organisational decision-making, performance improvement, cost management, and risk mitigation.[xxii] Based on the eight formal principles of accountability, transparency, integrity, protection, compliance, availability, retention, and disposition, Information Governance represents an accountability framework that "includes the processes, roles, standards, and metrics that ensure the effective and efficient use of information in enabling an organisation to achieve its goals."[xxiii]

The health information professions represented in this effort are:

- **Health Information Management (HIM):** The practice of acquiring, analysing, and protecting digital and paper-based medical and health information vital to providing quality patient care and maintaining the daily operations management of health information and electronic health records. Health Information Managers (HIMs) often serve in bridge roles, connecting clinical, operational, administrative, and financial functions. These professionals affect the quality of patient information and patient care at every point in

the healthcare delivery cycle. HIM professionals ensure an organisation has the information available when and where it is needed while maintaining the highest standards of data integrity, confidentiality, and security.[xxiv]

- **Health Informatics (HI):** The interdisciplinary field that studies and pursues the effective uses of health data, information, and knowledge for scientific inquiry, problem solving, and decision making, motivated by efforts to improve human health.[xxv] Informatics is focused on how information technology is applied to the continuum of healthcare delivery in order to produce data, information and knowledge to support healthcare and public health practices. It is an integrated discipline with specialty domains that include clinical and health sciences informatics, public health and nursing, research and population health and others. Health Informatics programmes offer varied options for practice or research focus.[xxvi]

- **Health Information and Communication Technologies (HICT):** The GHWC defines HICT as the technical infrastructure used to capture, manage, secure, share and use health information in a digital format. Professionals who work in HICT are focused on health information systems design, implementation and operation, working with software and hardware used to process health data and ensure usability. HICT professionals facilitate the technology user's experience and provide technical support for health information systems, such as electronic health records, laboratory information management systems, medical devices, mobile applications, and other systems used to capture and maintain health information and generate knowledge.

The GHWC recognises that there are specialty areas (e.g., biomedical, nursing, public health informatics and others) with additional curricula and supplementary workforce materials that go beyond the scope of this project.

Development and Future Plans

This document, the deliverable of Phase 1 (July 2014 - June 2015) of the global competencies development project, builds on a strong foundation and reconciliation of a plethora of important comments from the broader health information community.

An infrastructure guidance document intended to assist countries as they create a broad-based academic and workforce strategy rich in health information was developed in Phase 2 (July 2015-January 2016). The infrastructure document also includes a maturity assessment tool to help stakeholders understand the starting point for their infrastructure building process. Finally, an exhaustive role mapping resource is available to support workforce development efforts. Phase3, described below, will further elucidate workforce considerations and offer additional academic and workforce support tools.

Phase 3 Plans (January 2016-October 2016)

- Develop faculty and workforce training materials as appropriate to support user needs
- Develop plans to execute the curricula through infrastructure development efforts and curricula adoption
- Link related Knowledge, Skills, and Abilities (KSAs) to workforce competencies with potential use of self-assessment tools to encourage end users achievement of identified KSAs
- Work toward ongoing sustainability of the GHWC
- Increase usability of curricula competencies and role mapping tools
- Expansion of maturity assessment to further support stakeholder engagement and advancement of the health information professions globally

How to Use the Academic Curricula Competencies and this Guide:

This document serves as a practical guide to develop and implement academic development programmes in one or more of the health information professions (HIM/HI/HICT). Further, it serves as a roadmap that allows for customization of academic programmes dependent on the specific needs of the country/region. The specific module selected (HIM, HI, HICT) and academic level (entry, intermediate, advanced) of the module chosen for implementation should be informed by the job roles needed in each specific country. This decision may also be based, amongst other considerations, on the maturity of information systems, Internet access and reliability, and the level of maturity of current health information practices in the country adopting the curricula. Appendices A-I are the detailed domains, competencies, and curricular considerations grouped by each specific health

information profession (HIM, HI, HICT) and by academic level. Prior to viewing the appendices it is important to understand the structure and design features described below.

Understanding the Structure of the Curricula Competencies Guide:

Design features employed in the development of these academic curricula:

- Modules include the Health Information Professions of HIM, HI, HICT
  - Users select one or more modules to teach in the appropriate academic environment
- Domains
  - Each module has 29 standardized domains representing primary concepts to be covered
- Competencies
  - Required student learning outcomes – these vary by domain and by academic level
  - Competencies are not cumulative when transitioning between academic levels
- Foundational Competencies
  - A set of competencies included in domain and academic level that represent the common core of all of the health information professions and must be covered in every academic program
- Academic Level
  - Each level stands alone and does not build on knowledge learned from a previous academic level
  - Undergraduate level degree is not the pre-requisite for entering graduate level training
  - Graduates from other disciplines may enter the graduate level training
  - Each country should determine at which level the curricula are most needed and appropriately align with the existing educational structures/levels and HIM/HI/HICT workforce needs in the country. For example, in the United States entry level may be a certificate or associate degree, while in parts of Europe entry level may be a national diploma or higher-level diploma
- Curricular Considerations
  - Examples of topics to be taught to achieve the desired learning outcomes. By design, these are flexible enough to provide guidance yet allow for country specific and organisation-specific needs to be met
  - An asterisk (*) is used throughout the curricular considerations to denote terms and references that may be considered to be country-specific. For example, U.S.-specific items are included in the curricular considerations as are examples from other countries. Countries using the curricula are not required to teach this content, but may choose to do so if they feel it is appropriate to achieve the competency. The GHWC included these policy, practice and technology examples so that other countries could use them as a reference if needed. Users are encouraged to teach examples/instances of HIM/HI/HICT from their own country
- Bloom's Taxonomic Level
  - The associated learning level for each competency is described in Appendix M

The academic competencies in this document are linked to the unique needs of the health information professions. In addition, business success skills, soft skills, critical thinking, communication skills, and other career success skills, while not detailed in the curricula competencies individually, are critical to the ability of the student to function effectively on the job. Appendix K provides additional information on the importance of these skills, and Appendix L outlines the pre-requisite, foundational knowledge for individuals entering the health information professions.

The competencies and curricular considerations will assist educators in determining the modules and levels to be offered in the appropriate academic setting. Educators will map individual competencies to specific courses, align competencies to course objectives, and developing or select appropriate training materials and assignments. Bloom's Taxonomic scale is used in these curricula to classify learning into one of six levels: *remembering, understanding, applying, analysing, evaluating, and creating.*[xxvii]

A webinar recording and FAQ file is available to assist with additional questions. To adopt the global curricula in your country, Contact info@ahimafoundation.org for a phone consultation.

Table of Appendices – (for ease of use, each Appendix links to the content described in the title)

---

[i] Omary, Z.; Lupiana, D.; Mtenzi, F.; Wu, B. Analysis of the challenges affecting e-healthcare adoption in developing countries: A case of Tanzania. Int. J. Inf. Stud. 2010.

[ii] Barakat, A.; Woolrych, R.; Sixsmith, A.; Kearns, W.; Kort, H. eHealth Technology Competencies for Health Professionals Working in Home Care to Support Older Adults to Age in Place: Outcomes of a Two-Day Collaborative Workshop. Med 2.0 2013 (2, 2, 10).

[iii] Ryu, Seewon. "Telemedicine: Opportunities and Developments in Member States: Report on the Second Global Survey on eHealth 2009 (Global Observatory for eHealth Series, Volume 2)." *Healthcare Informatics Research* 18.2 (2012): 153–155. *PMC*. Web. 30 June 2015.

[iv] Hersh W. The Health Information Technology Workforce. Appl Clin Inform. 2010; 1(2): 197–212.Published online Jun 30, 2010. URL: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3632279/

[v] Eardley T. NHS Informatics Workforce Survey. 2006, ASSIST: London, England. URL: http://www.bcs.org/upload/pdf/finalreport_20061120102537.pdf

[vi] Health Informatics and Health Information Management. Human Resources Outlook 2014-2019. June 2014. Canada Health Infoway, Canadian Health Information Management Association (CHIMA) and others. URL: https://www.echima.ca/uploaded/pdf/reports/HI-HIM-HR-Outlook-Report-Final-w-design.pdf

[vii] Orlova A and Lehmann H. Informatics Education for HIM Professionals in the Era of Interoperable Standards-based HIEs. JAHIMA 2015 (2): 48-51.

[viii] U.S. Department of Commerce (DoC) - International Trade Association (ITA) Market Development Cooperator Program (MDCP) award #IT13MAS1120001

[ix] Ibid.

[x] Overview of Global Health Workforce Council. URL: http://www.ahima.org/about/global?tabid=council

[xi] Council for Excellence on Education. U.S. Academic Competencies. 2014. URL: http://www.ahimafoundation.org/education/curricula.aspx

[xii] S&I Framework, Workforce Development Workgroup. Materials available at: http://wiki.siframework.org/Workforce+Development+Work+Group

[xiii] AHIMA-AMIA Matrix Tool. URL: http://wiki.siframework.org/file/view/AHIMA-AMIA_Matrix_Tool.pdf/447214980/AHIMA-AMIA_Matrix_Tool.pdf

[xiv] Recommendations of the International Medical Informatics Association (IMIA) on Education in Biomedical and Health Informatics (First Revision). URL: http://www.imia-medinfo.org/new2/node/8

[xv] Texas Health Information Technology Higher Education Inventory Report; and Curriculum developed for Health IT training in U.S. URL: http://wiki.siframework.org/file/view/TexasHITHigherEducationInventory_FINAL_02032012.pdf

[xvi] Australian Health Informatics Education Council. Health Informatics Scope, Careers and Competencies (Version 1.9). November 2011. URL: http://www.ahiec.org.au/docs/AHIEC_HI_Scope_Careers_and_Competencies_V1-9.pdf

[xvii] Health Information Management Association of Australia, Entry Level Competency Standards version 2.0 2013. URL: http://www.himaa2.org.au/

[xviii] Canadian Health Information Management Association's Learning Outcomes for Health Information Management Diploma/Degree programs (2010). URL: http://www.nihi.ca/nihi/IR/2010_LOHIM_HIM%20learning%20content.pdf

[xix] European e-Competence Framework. A common European framework for ICT Professionals in all industry sectors. URL: http://www.ecompetences.eu/
[xx] World Health Organisation (WHO). Joint Inter-Ministerial Policy Dialogue on eHealth Standardization and Second WHO Forum on eHealth, Standardization and Interoperability. Geneva, Switzerland, February 10-11, 2014. p.3
[xxi] AHIMA Career and Student Center. "What is Health Information? URL: http://www.ahima.org/careers/healthinfo
[xxii] American Health Information Management Association (AHIMA). Information Governance Principles in Healthcare (IGPHC). 2014. URL: http://research.zarca.com/survey.aspx?k=SsURPPsUQRsPsPsP&lang=0&data=
[xxiii] American Record Management Association (ARMA). Generally Accepted Recordkeeping Principles. Information Governance Maturity Model. 2013. URL: http://www.arma.org/principles
[xxiv] AHIMA Career and Student Center. "What is Health Information? URL: http://www.ahima.org/careers/healthinfo
[xxv]American Medical Informatics Association (AMIA). Joint AMIA/AHIMA Summary of Their Relationship and Links to the Informatics Field. URL: https://www.amia.org/joint-amia-ahima-summary
[xxvi] AHIMA Career and Student Center. "What is Health Information? URL: http://www.ahima.org/careers/healthinfo
[xxvii]Anderson, L., Krathwohl, D. et al. A Taxonomy for Learning, Teaching, and Assessing. A Revision of Bloom's Taxonomy of Educational Objectives. Addison Wesley Longman, 2001.

GHWC
GLOBAL HEALTH WORKFORCE COUNCIL

The Global Health Workforce Council (GHWC) is a diverse group of health information leaders from around the world whose purpose is to oversee the development of an internationally applicable health information curricula and competency standards. **ahima.org/about/global**

AHIMA
American Health Information Management Association®

The American Health Information Management Association (AHIMA) represents more than 101,000 health information professionals in the United States and around the world. AHIMA is committed to promoting and advocating for high quality research, best practices, and effective standards in health information and to actively contributing to the development and advancement of health information professionals worldwide. AHIMA's enduring goal is quality healthcare through quality information. **ahima.org**

AHIMA FOUNDATION

The AHIMA Foundation is envisioning the future direction of the healthcare industry and we are preparing for that future with investments in research, workforce development, education, and innovative strategies that will advance the HIM profession and ultimately better serve the healthcare community. The AHIMA Foundation is the 501(c)(3) charitable affiliate of AHIMA. **ahimafoundation.org**

IFHIMA
International Federation of Health Information Management Associations

The International Federation of Health Information Management Associations (IFHIMA) formerly known as IFHRO supports national associations and health record professionals to implement and improve health records and the systems, which support them. IFHIMA was established in 1968 as a forum to bring together national organizations committed to improvement in the use of health records in their countries. The founding organizations recognized the need for an international organization to serve as a forum for the exchange of information relating to health records, health information management and information technology. **ifhima.org**

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Entry	1.2 Apply data extraction methodologies to report/content generation	3	• Primary and secondary data sources o EHRs o Clinical and public health data repositories o Patient/population registries o Financial databases o Patient experience data o Cost data o Purchasing/supply chain data • Relational databases • Metadata repository • Data mining (NLP) • Report/content generation tools and principles (SQL, IHE RFD, SDC)

Entry	1.3 Utilize basic descriptive, institutional, healthcare statistics for reporting and data analysis	3	• Analytics focus: Retrospective analysis, Predictive analysis and suggestive analysis • Frequencies, ranges, rates, percentages • Averages/means, medians • Normal distribution, standard deviation • Correlation • Biomedical research theory • Universal ethical standards for research (e.g., Nuremburg, Belmont, and other global standards)
Entry	1.4 Analyze data to identify trends	4	• Trends over time • Benchmarking • Variance analysis o Favourable or unfavourable? • Quality, safety, and effectiveness of healthcare • Data visualization: o Dashboards o Graphs, charts o Gauges o Infographics o Storyboards o Reports • Comparative statistics • Evidence-based practice
Entry	1.5 Explain biostatistics related concepts and terminology	2	• Human genome/genomics • Transcriptomics • Proteomics • Metabolomics • Biomarkers
Entry	1.6 Apply statistical and epidemiological methodologies to utilize data to support clinical guidelines and protocols	3	• Incidence • Prevalence • Clinical outcomes • Clinical guidelines and protocols • Known alternative treatments, medications, modalities, interventions
Entry	1.7 Analyze and report data and statistics for the use of quality improvement, information governance and clinical management	4	• Clinical outcomes • Population health • Business metrics • Internal reporting • External reporting

2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who
Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Entry	2.1 Describe the impact of change management on processes, people, and systems	2	• Communication and network technologies • Theories of change including positive forces (e.g., champion of change) and negative (e.g., resistance to change) • Theories of organisational development and systems management • Workflow analysis and value of individual worker in the process • Communication and network technologies to monitor the progress of change and to communicate change activities (e.g., Gantt chart) • Systems that are impacting change throughout government systems, and healthcare systems. EHR, PHR, HIEs, portals, public health, standards, telehealth
Entry	2.2 Describe change management techniques and processes	2	• Strategy for change preparation • Plans for change implementation • Resistance to change • Impact of change on people and organisation • Celebrate milestone success(es)

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
Entry	3.1 Apply diagnosis/procedure codes according to current guidelines/approved standards	3	• Structure and format of the current coding methodologies • Current guidelines regarding the coding methodologies • ICD/CPT, HCPCS, ICF, ICD-O • Taxonomies • Healthcare data sets that are determined by regulatory and • Accrediting bodies (OASIS, HEDIS, UHDDS, DEEDS)* • Data mapping between terminologies and classification systems • Clinical Care Classification (CCC) • Nomenclatures • DSM, RxNorm, Terminologies • SNOMED CT, LOINC

Entry	3.2 Evaluate the accuracy of diagnostic and procedural/health intervention coding	5	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies, auditing • Undertake quality assessment activities using re-coding process • Use standard quality tool to determine coding quality issues • Determine relevant actions to address coding quality issues identified
Entry	3.3 Apply diagnostic and procedural groupings (e.g., DRGs)	3	• Principles and applications of diagnostic and procedural grouping • DRG, MSDRG, APC, RUGS • ICD-O, ICF
Entry	3.4 Analyze current regulations and established guidelines for use of clinical classification systems	4	• Regulatory/Guidelines; Examples: WHO, ICDA, HIPAA, CMS, NCHS, AHIMA, NHS (England), IFHIMA, etc.* • Effects of National or International regulations or laws on application of clinical classification systems
Entry	3.5 Determine accuracy of computer assisted coding assignment and recommend corrective action	5	• AHIMA CAC Practice Guidelines* • CAC Vendors • Principles and Application of CAC auditing
4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations
Entry	4.1 Identify discrepancies between supporting documentation and coded data	3	• Clinical outcomes measures and monitoring
Entry	4.2 Develop appropriate physician queries to resolve data and coding discrepancies	6	• AHIMA CDI toolbox * • Professional communication skills • Clinical documentation improvements • Healthcare professionals roles and participation in CDI • Data quality attributes/documentation integrity • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)*

5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Entry	5.1 Collect health data elements and datasets for multiple uses in the healthcare industry	2	• Health data collection tools • Screen design, screens • Data elements, data sets, databases, indices • Data mapping • Data warehousing
Entry	5.2 Apply graphical tools for data presentations	3	• Graphical tools • Presentations (i.e., PowerPoint, Prezi)

Entry	5.3 Apply policies and procedures to ensure the accuracy and completeness of health data	3	• Staff education in data rationale • Data standardization • Data categorization • Stakeholder support • Primary and secondary data sources
Entry	5.4 Utilize policies, processes, methodologies and implementation procedures to support clinical decision making	3	• Office of the National Coordinator Roadmap • Delivery system considerations • CDS Implementation from HealthIT*
Entry	5.5 Describe sources and uses of secondary data	2	• Registries • Internal and external databases
Entry	5.6 Explain record and system disaster recovery and management protocols and procedures	3	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
Entry	5.7 Utilize basic demographic transitional theories	2	• Population health management
6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement

Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Entry	6.1 Apply policies and procedures to ensure the accuracy and integrity of health data both internal and external to the health system	3	• Data and data sources for patient care and population health including registering • Care coordination, administrative reporting, population health reporting • Bylaws: Medical staff bylaws, Hospital bylaws*
Entry	6.2 Apply quality management tools	3	• Tools and techniques for process improvement/reengineering • Gantt chart, benchmarking and data presentation • Lean, Six Sigma

7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*

Entry	7.1 Comply with ethical standards of practice	5	• Role of ethics in history and evolution of HIM practice • Professional and practice-related ethical issues • AHIMA Code of Ethics • Ethical Decision-Making Matrix/Model: steps in the ethical decision-making process • Patient rights • Patient privacy • Autonomy • Professional values and obligations to o Patient o Healthcare team o Employer o Public o Self o Peers o Professional association • Cultural diversity • Human dignity • AHIMA Code of Ethics • World Health Organisation Global Health Ethics (see WHO listing
Entry	7.2 Evaluate the consequences of a breach of healthcare ethics	5	• Breach of healthcare ethics • Ethical issues related to: o Medical identity theft o Documentation o Privacy • Breach protocols (policies and procedures) • Local and international laws
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems

Entry	8.1 Explain budgets	2	• Budgets o Budget process (capital v. operating) • Resource planning and allocation o Cost/benefit analysis o Outsourcing, insourcing, acquisition • Staffing, department, capital
Entry	8.2 Explain accounting methodologies	2	• Accounting methodologies • Cost and cash accounting o Cost reporting
Entry	8.3 Explain budget variances	2	• Budget variances
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access

Entry	9.1 Apply policies and procedures related to issues of access and disclosure of confidential health information	3	• Terms: privacy, confidentiality, security • Role of HIM professional in development of health information security programs and breach monitoring • Data security threats: o People o Environmental factors o Hardware o Software o Social engineering o Identity theft • Elements of a security program: privacy, integrity, availability: administrative, physical, technical safeguards • Cyber security • Patient specific data releases to authorized users • Access and disclosure policies and procedures
Entry	9.2 Explain current trends and future challenges related to the Health Information Exchange (HIE)	2	• Exchange/sharing of health information • Employer to health provider, health provider to health provider, health provider to employer, facility to facility • HIE • Data quality

Entry	9.3 Apply appropriate standards to achieve interoperability of health information systems	3	• Data interchange standards • X2, HL-7 • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Information governance: protection including • External enforcement to access and disclosure • Internal audits to assess enforcement and accountability • Manage processes • Use and disclosure with patient authorization and without patient authorization • Advocate for patient's rights and access • Incident reports • Informed consent • Authorizations • Sensitive information
Entry	9.4 Explain methods to facilitate effective integration between clinical requirements and system functionality	2	• Workflow analysis and optimization concepts
Entry	9.5 Explain system testing, evaluation and continuous improvement	2	• Test environment concepts • PDCA cycle
Entry	9.6 Summarize the problem and challenges to be addressed through HIS requirements engineering	2	• People vs. technological challenges • Emerging requirements engineering theory

10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Entry	10.1 Explain the process used in the selection and implementation of health information management systems	2	• Strategic planning process • Integration of systems • Information management strategic plan • Corporate/Enterprise strategic plan
Entry	10.2 Utilize health information to support strategic planning	3	• Business planning, market share planning • Disaster and recovery planning

11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Entry	11.2 Perform system testing under guidance	3	• Alpha and Beta testing • Timing and sequencing of testing • End-user testing

Entry	11.3 Apply standards to define document structure and documentation requirements	6	• HIT standards for semantic interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Interoperability standards (ISO TC215) • HIT standards for HIM practices • Standards development organisations (HL7, ISO, ANSI) • Standards adoption or change process • Proposal, vetting, voting procedure
Entry	11.7 Identify failing components and establishes root cause failures	3	• Troubleshooting procedures • Customer service scenarios
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Entry	12.2 Adhere to standards and policies to identify, classify and record incident types, service interruptions, service level failures, and security risks	3	• Corporate compliance and patient safety • HIT standards for HIM practices • Risk assessment • Incident reporting processes
Entry	12.3 Analyze health information systems performance data	4	• Strategic and organisational management • Workflow and process monitors • Resource allocation • Outcomes measures and monitoring • Metadata
Entry	12.4 Identify actions to improve service reliability	3	• End-user surveys • Continuous improvement processes (e.g. PDCA) • Qualitative practices to improve system performance

Entry	12.5 Interpret user problems and identify solutions based on basic product knowledge and following standards/policies	5	• Customer service • Interpersonal communication • Continuous learning and professional development • Processes to quickly respond to problems
13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices

Entry	13.1 Analyze policies and procedures to ensure organisational compliance with regulations and standards	4	• Internal and External standards regulations and initiatives and accreditation standards pertaining to information privacy and security, safe and effective care environments, and uses of health information technology (e.g., HIPAA, ARRA, The Joint Commission, Quality Integrity Organisations, Meaningful Use of HIT*) • Risk management, quality control, performance improvement, and patient safety
Entry	13.2 Collaborate with staff in preparing the organisation for accreditation, licensure, and/or certification	4	• Policies, procedures, and processes related to accreditation, licensure, certification
Entry	13.3 Adhere to the legal and regulatory requirements related to the health information management	3	• Legislative and regulatory processes • Coding quality monitoring, compliance strategies, and reporting
Entry	13.4 Examine compliance with policies and procedures related to health information practices	4	• Policy and procedures in comparison to legal and accreditation requirements • Job performance in comparison to established compliance policies
Entry	13.5 Identify potential abuse or fraudulent trends through data analysis	3	• False Claims Act* • Whistle blower, STARK, Anti Kickback, unbundling, upcoding • Role of OIG, RAC • Fraud/Abuse • Billing data review
14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record

Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
Entry	14.1 Verify that documentation in the health record supports diagnoses and procedures and reflects the patient's progress, clinical findings, and discharge status	4	• Content of health record • Documentation requirements of the health record • Health information media • Paper, computer, web-based document imaging • Healthcare setting (e.g., long-term care vs. emergency department (ED))
Entry	14.2 Verify the documentation in the health record according to a data quality framework	4	• Documentation requirements of the health record for all record types • Acute, outpatient, long-term care (LTC), rehab, behavioural health
Entry	14.3 Recognise a complete health record according to organisational policies, external regulations, and documentation standards	2	• Medical staff By-laws • The Joint Commission, State statutes* • Legal health record and complete health record
Entry	14.4 Differentiate the roles and responsibilities of health professionals, to support documentation requirements throughout the continuum of healthcare	5	• Health Information Systems as it relates to the roles and responsibilities of healthcare providers • Administrative(patient registration, ADT, billing) and Clinical (lab, radiology, pharmacy)
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices

Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Entry	15.1 Report staffing levels and productivity standards for health information functions	3	• Staffing levels and productivity standards • Productivity calculations • Performance evaluations
Entry	15.2 Describe the need for compliance with jurisdictional labour regulations and requirements	2	• Labour/employment laws • International laws
Entry	15.3 Adhere to work plans, policies, procedures, and resource requisitions in relation to job functions	3	• HR structure and operations • HR involvement in organisational change • Job Descriptions • Organisational chart
Entry	15.4 Recognise cultural awareness and diversity in an organisation	2	• Cultural competence • Healthcare professionals self-assessment of cultural diversity • Self-awareness of own culture • Assumptions, biases, stereotypes
Entry	15.5 Describe negotiation, mediation, advocacy, people management principles	2	• Purpose of negotiation • Types of negotiation tactics/methods • Purpose and role of a mediator • Usefulness of negotiation tactics/methods • People management principles: o Maslow's Hierarchy of Needs o Erikson's life stages

Entry	15.6 Explain methods for empowerment, delegation and promoting improvement	2	• HIM Leader/Manager role • Intrinsic & Extrinsic rewards (motivators) • Employee recognition • Purpose of empowerment, delegation and the promotion of improvement • Benefits of empowerment, delegation and the promotion of improvement • Principles of delegation and empowerment: o Maslow's Hierarchy of Needs o Erikson's life stages • Self-awareness • Confidence building • S.M.A.R.T.E.R (Delegation Rule): o Specific o Measurable o Agreed o Realistic o Timebound o Ethical o Recorded • Impact on the individual and the HIM Department
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards

Entry	16.1 Apply policies and procedures to use of networks, including intranet and internet applications, to facilitate the EHR, PHR, patient portals, public health, and other administrative applications	3	• Internal and external practice standards, regulations, and initiatives • Privacy and security laws • Patient verification • Medical identity theft • Data security concepts • Security processes and monitoring
Entry	16.2 Apply policies and procedures to ensure the integrity of health information	3	• Quality assessment and improvement • Process, collection tools, data analysis, reporting techniques • Case management/care coordination
Entry	16.3 Explain software and network architecture, data warehousing, virtual network storage and applications, security and IT documentation	2	• Models of network architecture • System documentation tools and methods • Cloud computing • Data backup methods • Requirements engineering • Cyber security methods and theory • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*

Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates
Entry	17.1 Apply confidentiality, privacy and security measures, policies and procedures for internal and external use/exchange to protect health information (regardless of format)	3	• Information governance: protection • HIT standards for HIM practices • Internal and external standards, regulations, and initiatives • Patient verification • Medical identity theft • Data security concepts • Security processes and monitoring • Administrative, physical and technical safeguards
Entry	17.2 Apply retention and destruction policies for health information	3	• Information governance: retention • HIT standards for HIM practices • Data storage and retrieval • E-Discovery • Information archival, data warehouses • Incident reporting • Business Associates as defined by HIPAA
Entry	17.3 Apply system security policies according to departmental and organisational data/information standards	3	• Information governance: protection • HIT standards for HIM practices • Data breaches • Privileged communications • Policies for authorized users • Security processes and policies • Data/information standards
Entry	17.4 Apply the security and privacy implications of mobile health technologies	3	• Information governance: protection • HIT standards for HIM practices • Mobile technologies, patient portals, patient education, outreach, patient safety, PHRs, patient navigation
Entry	17.5 Apply healthcare legal terminology	3	• Healthcare legal terminology
Entry	17.6 Identify the use of legal documents	3	• Health information/record laws and regulations • Consent for treatment, retention, privacy, patient rights, advocacy, health power of attorney, advance directives, DNR • e-Discovery*

Entry	17.7 Apply legal concepts and principles to the practice of health information protection	3	• Information governance: protection, transparency, compliance • Maintain a legally defensible health record • Permitted disclosure without authorization • Re-disclosure • Legal terms: Subpoenas, depositions, court orders • Courts/law enforcement • e-Discovery*
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
Entry	18.1 Define system vulnerabilities and threats based on a systematic scan of the environment	1	• Information governance: protection • HIT standards for HIM practices • Security processes and monitoring • Information system specifications • Scanning information systems hardware and software • Prioritization of vulnerabilities: minor, major and critical • Exploits and threats to security
Entry	18.2 Report non-compliance with security policies and procedures	3	• Information governance: compliance • HIT standards for HIM practices • Security processes and policies • System penetration testing practices to avoid cyber attacks • Data/information standards • Reporting measures

19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Entry	19.1 Explain the importance of healthcare policy-making as it relates to the healthcare delivery system	2	• Healthy People 2020 • IOM reports • CDC • State, local and federal policies • PCORI
Entry	19.2 Apply management models, methods and theories	3	• Information governance • HIT standards for HIM practices • C-Suite (within various healthcare environment) o Team leadership concepts and techniques o Management and Leadership roles o Healthcare providers roles and disciplines • Future roles for HIM professionals
Entry	19.3 Describe the differing types of organisations, services, data/information/knowledge management needs, personnel and their interrelationships across the healthcare delivery system	2	• Learning Health System and knowledge management • Information governance • Managed care organisations • ACOs • Payers/providers, all delivery settings • Payers' impact to each delivery setting • Biotech • Medical devices

Entry	19.4 Explain leadership principles and concepts in the healthcare environment	2	• Leadership versus Management • Stages of Team Development
Entry	19.5 Describe emotional intelligence and relationship building techniques	2	• Emotional intelligence • Empathy • Organizational culture
Entry	19.6 Explain strategic thinking principles	2	• Innovation, creativity • Brainstorming • Collaboration
Entry	19.7 Describe the link between visions and goals to processes and outcomes	2	• Vision, Mission, goals • Benchmarking • Strategic plan
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Entry	20.1 Recognise the process of project planning and related components	2	• Project management methodologies • PMP • Software application
21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Entry	21.1 Apply the principles of the procurement process (e.g., orders based on existing contracts)	3	• Procurement considerations for industry sector (public, private, government)/vendor • Procurement o Request for proposal o Request for information • Request for quotation • Ethical and legal procurement considerations • Supply chain management
Entry	21.2 Ensure the correct execution of orders, including validation of deliverables and correlation with subsequent payments	5	• Order tracking through the pipeline • Order reconciliation
Entry	21.3 Explain vendor/contract management	2	• System acquisition and evaluation • Ethical/legal considerations • Global workforce assessment
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles

Entry	22.1 Communicate application of the organisation's quality policy	3	• Information governance: integrity and audit • HIT standards for HIM practices • Review policies • Training
Entry	22.2 Utilize the organisation's quality policy	3	• Information governance: integrity and audit • HIT standards for HIM practices • Quality assessment and improvement • Process, collection tools, data analysis, reporting techniques • Patient advocacy and education • Patient safety concepts
Entry	22.3 Explain the importance of quality maintenance and consistent outcomes in the healthcare setting	2	• Information governance: transparency and accountability • HIT standards for HIM practices • Community expectations • Ethical responsibility • Medical science best practices • Strategic plan
Entry	22.4 Describe organisation accreditation requirements	2	• Voluntary participation • Requirements vary based on facility type and location (country, region) • Commitment to quality and service
Entry	22.5 Utilize internal and external data for benchmark comparisons	3	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Historical internal data over time • Comparative data for similar facility type, size of organisation, for profit/not for profit and country/region
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees

Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
Entry	23.1 Describe the concept of research and its impact on outcomes	2	• Evidence-based health practices • Body of knowledge
Entry	23.2 Explain common research methodologies and why they are used in healthcare	2	• Research methodologies • Quantitative, qualitative, and mixed methods
Entry	23.3 Comply with research administrative processes and policies	5	• Research ethics and integrity • IRB • CDC*, WHO, AHRQ*
Entry	23.4 Demonstrate knowledge of research related to HIM for data collection, analysis, and interpretation	3	• Medical/clinical/health-related literature searches • Analysis/evaluation of literature • Information governance: availability, integrity, transparency, protection, retention and disposition • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Entry	24.1 Collect data from health information data sources used for risk management reporting	2	• Data collection • Information governance: availability, and protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk assessment • Security policies and procedures

Entry	24.2 Organise data for risk management reporting	3	• Data management • Reporting mechanisms • Information governance: availability, and protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications
Entry	24.3 Summarize decision making and risk management methodologies in leadership	2	• Risk identification • Pros and Cons
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)

Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)
Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis
Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Entry	25.1 Adhere to HIT standards	3	• Information governance: compliance, availability and integrity • HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC, CPT, RxNorm and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (guidelines, HIM practices) • Interoperability standards (ISO TC215)
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)

Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems
Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity

26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback
Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Entry	26.1 Utilize the organisation's strategic plan to ensure alignment with goals	3	• Mission • Vision • Goals/values • Roadmaps • SWOT analysis
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan

Entry	27.1 Explain the methodology of training and development	2	• Orientation and training • Content delivery and media • Roles and competencies of trainers • Training effectiveness (applicable job functions) • Mentor and protégé/mentee relationship • Employee interpretation/interaction
Entry	27.2 Explain the return on investment for employee training and development	3	• Instructional goals • Outcomes evaluation • Employee satisfaction as measure of ROI • Employee and Employer goals • Hiring/firing, cost benefit analysis
Entry	27.3 Explain communication, training and implementation methods related to health information systems	2	• Communication process • Purpose of training • Discuss Method(s) of Delivery: o In-Service o Power Point o Electronic (Recording or Live) o Consultant (External Expert) • Identify audience
28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Entry	28.1 Utilize tools and techniques to monitor, report, and improve processes	3	• QI/PI techniques integrations • Software application • Professional data visualization and display tools
Entry	28.2 Identify cost-saving and efficient means of achieving work processes and goals	3	• Job redesign/enrichment • Employee goal setting • Performance/Employee Evaluation • Work processes design (monitoring)
Entry	28.3 Utilize data for facility-wide outcomes reporting for quality management and performance improvement	3	• Data location for report generation • Data interpretation and analysis • QI/PI report generating • Professional data visualization and display tools

29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Entry	29.1 Describe local healthcare organisation structures	2	• Primary, secondary, and tertiary care • Inpatient versus ambulatory care • Organizational charts and reporting structures
Entry	29.2 Describe healthcare funding models	2	• Public and social funded healthcare delivery systems • Private insurance concepts • Donor-funded health services
Entry	29.3 Describe information systems for health information management at individual patient, community and national levels	2	• Data, information, knowledge, meaning, and wisdom hierarchy • Information governance • Health information systems • Health information systems interoperability • Health information exchange

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Intermediate	1.1 Recommend organisational action based on knowledge obtained from data exploration and mining	5	• Data visualization, power point, dashboards • Data mining and exploration • Power point, dashboards and other visualization

Intermediate	1.2 Analyze clinical data to identify trends that demonstrate quality, safety, and effectiveness of healthcare	4	• Frequencies, ranges, rates, percentages • Averages/means, medians • Normal distribution, standard deviation • Reporting: o Clinical o Financial o Administrative o Internal/external • Healthcare statistical formulas • LOS, death, birth, and other utilization rates • Health data trends
Intermediate	1.3 Facilitate clinical decision support system development and refinement by applying clinical data analytics techniques	4	• Data exploration and mining • Analytics focus; Retroactive reports, predictive analytics, proactive health management, outreach and referrals • Real-time clinician access to standards of care, clinical practice guidelines, and the medical literature at the point-of-care • Clinical decision support system • Clinical data analytics • Techniques for data analytics including data mining (NLP) and use of content generation standards (SQL, IHE RFD, SDC)
Intermediate	1.4 Utilize statistical software for reporting and data analysis	3	• Statistical software • Analyzing and reporting healthcare data • Excel, Access, SQL • Computerized statistical packages o SPSS o SAS o STATA • Crystal Reports
Intermediate	1.5 Analyze statistical data for decision making	4	• Statistical software • Analyzing and reporting healthcare data • New insights via: o Inferential statistics o Descriptive statistics o Population-based analytics o T-tests, ANOVA, regression analysis, reliability, validity • Statistical analysis, healthcare data and decision making

Intermediate	1.6 Analyze, utilize and report data using biostatistical and epidemiology methods to support clinical guidelines and protocols	4	• Incidence • Prevalence • Clinical outcomes • Clinical guidelines and protocols • Efficacy of known alternative treatments, medications, modalities, interventions
2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who
Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Intermediate	2.1 Interpret concepts of change management theories, techniques and leadership	5	• Change Management • Mergers • Risk exposure • Organisational design • EHR implementation
Intermediate	2.2 Identify stakeholders, their roles and relationships	3	• Patients • Clinicians and allied health • Administrative • Board of Directors • Community • Employees
Intermediate	2.3 Evaluate change requirements and utilize specialist skills to identify possible methods and standards that can be deployed	4	• Organisational development role • Organisational behaviour role • Systems analysts role
Intermediate	2.4 Apply change management techniques	3	• Leadership impact in change management • Stages of the Change Curve

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
Intermediate	3.1 Evaluate applications/systems for clinical classification, coding and content standardization	5	• Encoders, Computer Assisted Coding, Systems Development Life Cycle • Applications/systems • HIT standards and systems interoperability (semantic, technical, and functional) • Chargemaster • Workflow processes • Project management
Intermediate	3.2 Manage applications/systems for clinical classification, coding and content standardization	5	• Applications/systems • HIT standards and systems interoperability (semantic, technical, and functional) • Chargemaster • Workflow processes

Intermediate	3.3 Implement applications/systems for clinical classification, coding and content standardization	3	• Applications/systems • HIT standards and systems interoperability (semantic, technical, and functional) • Project management
Intermediate	3.4 Identify the functions of healthcare classification systems and relationships between different classification systems	3	• HIT standards and systems interoperability (semantic, technical and functional) • Healthcare classification systems, and taxonomies • ICD, CPT, SNOMED CT, DSM, RxNorm and other
Intermediate	3.5 Interpret the accuracy of diagnostic/procedural coding	5	• Principles and applications of classification, taxonomies • Data quality
Intermediate	3.6 Construct processes, policies, and procedures to ensure the accuracy of coded data based on established guidelines	5	• UHDDS, federal compliance guidelines • Official coding guidelines from CMS, AMA, NCHVS, NCCI • Performance management/process improvement
Intermediate	3.7 Manage coding audit	5	• Audit principles and reporting • Compliance
Intermediate	3.8 Conduct a coding audit	6	• Audit principles and reporting
Intermediate	3.9 Identify severity of illness and its impact in healthcare payment systems as appropriate to local jurisdictions	3	• Casemix • Computer assisted coding systems • Payment systems • PPS, DRG, RBRVS, RUG, VBP, MSDRG, commercial, managed care, federal plans*
4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations
Intermediate	4.1 Implement provider querying techniques to resolve coding discrepancies	3	• Query process, written, verbal and template queries, timeliness and interpretation, query retention
Intermediate	4.2 Create methods (e.g., trigger tools) to identify/predict clinical documentation improvement opportunities (e.g., medical/drug errors, manage co-morbidities and complications, hospital acquired conditions)	6	• CDI concurrent, retrospective, post-bill review • CDI metrics and reporting process • CDI program development • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)*

5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Intermediate	5.1 Validate data from various sources to include in a health record or other health data collection	3	• Access control mechanisms • Input validation • Defence in depth theory of validation • Whitelisting/blacklisting

Intermediate	5.2 Format data to satisfy integration needs	4	• Business requirements for data capture, structure, integrity, and use of health information • Functional requirements for information systems to enable data capture, structure, integrity, and use of health information • Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Information exchange standards (HL7, IHE) • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.3 Construct data dictionaries to define data elements, data sets and databases rules and to meet the needs of the enterprise	6	• Data dictionary composition • Data sources
Intermediate	5.4 Demonstrate compliance with internal and external data dictionary requirements	3	• Accreditation standards • The Joint Commission, NCQA, CARF, CHAP, URAC Data, HL7, ASTM, HEDIS, ACS data standards*
Intermediate	5.5 Advocate for systems interoperability and information exchange	5	• Generally accepted information governance principles • HIT standards to support HIM practices • HIT standards for systems interoperability • Stakeholder education in HIE, information governance, and standard for systems interoperability
Intermediate	5.6 Analyze information needs of customers across the healthcare continuum	4	• Capture, structure, manage, integrate, and use of health information • Requirements engineering (workflow and information flow modelling) • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.7 Evaluate data storage design	5	• Storage media, disaster recovery, cloud computing
Intermediate	5.8 Manage clinical indices/databases/registries	5	• Secondary data sources, registries, and indices • Healthcare data sets • HEDIS, UHDDS, OASIS* • Indices and registry policies
Intermediate	5.9 Apply knowledge of information systems to meet organisational needs	3	• Information systems design, development and operation • Requirements engineering • Information systems models (use cases, workflow and information flow, and architecture) • HIT standards and systems interoperability

Intermediate	5.10 Evaluate data from varying sources to create meaningful presentations	5	• Presentation software • Healthcare data • Indices and registries • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.11 Implement and maintain policies, processes, methodologies and implementation procedures to support clinical decision making with system integration, interaction and exchange with clinical practice	3	• HIT standards and systems interoperability • Phases of HICT implementation • Provider/Patient portal training • Best practices for HICT implementation* o Define goals o Gain physician champions o Include other stakeholders o Work towards interoperability (define requirements, select standards-based certified ICT product, establish project management (milestones, timeline, documentation), test ICT implementation, train personnel)
Intermediate	5.12 Implement and manage effective record and system disaster recovery and management protocols and procedures	4	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
Intermediate	5.13 Organize and identify characteristics of secondary data for purposes of effective analysis	3	• Registries o Birth o Death o Chronic diseases o Cancer o Infectious diseases • Administrative data o Financial o Human resources o Marketing/Public relations efforts • Other
Intermediate	5.14 Apply of biostatistics and demographic analysis skills in health information management	3	• Best practice development • Clinical documentation • Patient generated data • Mobile health data integration

6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Intermediate	6.1 Perform quality assessment including quality management data quality, and data integrity	4	• Data quality assessment and integrity • Disease management process • Case management, critical paths, care coordination • Outcomes measurement • Patient as patient, customer satisfaction, disease specific • Patient and organisation safety initiatives
Intermediate	6.2 Oversee policies and technologies to protect data integrity	5	• Data quality model • Characteristics of data integrity
7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations. * represents country-specific examples			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*
Intermediate	7.1 Promote compliance with ethical standards of practice	3	• Compliance strategies and reporting • Regulatory and licensure requirements • Elements of compliance programs
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
Intermediate	8.1 Evaluate capital, operating and/or project budgets using basic accounting principles	5	• Budget process • Capital and operating expenses • Staffing
Intermediate	8.2 Perform cost-benefit analysis for resource planning and allocation	4	• Accounting • Cost/benefit analysis • Outsourcing, acquisition
Intermediate	8.3 Evaluate the stages of the procurement process	5	• Content of and answers to a request for proposal, request for information and request for quotation
Intermediate	8.4 Plan budget	3	• Operational needs evaluation • Capital needs evaluation • Collaboration with senior leaders and line officers • Short-term and long-term organisational goals

Intermediate	8.5 Develop budget	6	• Types of budgets and budgeting principles • Budget cycles • Accounting principles
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Intermediate	9.1 Evaluate policies and procedures to appropriately manage access and disclosure of confidential health information	5	• Audit techniques and principles • Principles for releasing PHI • Required elements of an authorization • Designated record set • IRBs • Redisclosure • Tracking disclosures • Principles for releasing PHI • Required elements of an authorization • Encryption/electronic access • Data integrity

Intermediate	9.2 Implement policies and procedures to appropriately manage access and disclosure of confidential health information	3	• Principles for releasing PHI • Required elements of an authorization • Designated record set • IRBs • Redisclosure • Tracking disclosures
Intermediate	9.3 Facilitate appropriate access to electronic health information through confidentiality and security measures, policies and procedures	4	• Principles for releasing PHI • Required elements of an authorization • Encryption/electronic access • Data integrity
Intermediate	9.4 Evaluate the development of operational policies and procedures for health information exchange	5	• HIEs, local, regional including providers, pharmacies, other health facilities • Business associates
Intermediate	9.5 Create operational policies and procedures for health information exchange	6	• HIEs, local, regional including providers, pharmacies, other health facilities • Business associates • Encryption • Data exchange standards
Intermediate	9.6 Conduct system testing to ensure data integrity and quality of health information exchange	6	• Integration, interfaces, and data reliability • Risk analysis
Intermediate	9.7 Evaluate various models for health information exchange	5	• RHIO, HIE • Data exchange standards
10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures

Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources
Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Intermediate	10.1 Take part in the development of information management plans that support the organisation's current and future strategy and goals	4	• Strategic planning process • Integration of systems • Information management strategic plan • Corporate/Enterprise strategic plan • Stakeholder needs assessment
Intermediate	10.2 Take part in the planning, design, selection, implementation, integration, testing, evaluation, and support of health information systems and technologies including designing for patient safety	4	• Facilitation, networking, consensus building • Meetings with executive boards and other high level organisation groups, interdisciplinary committees • System acquisition and evaluation • Contract management • RFI and RFP
Intermediate	10.4 Ensure that an application is correctly integrated within a complex environment and complies with user/customer needs	5	• Workflow design principles • Impact assessments • User surveys and evaluations

Intermediate	10.5 Assess new and emerging health information technologies (HIM, HI, HICT)	5	• Environmental scanning
Intermediate	10.6 Facilitate effective integration between clinical requirements and system functionality	4	• Information systems design: requirements engineering • Workflow analysis and optimization concepts • Needs assessments • Stakeholder communication • Clinical care concepts such as care plans, clinical pathways, and care coordination
Intermediate	10.7 Perform system testing, evaluation and continuous improvement	4	• Information systems design: testing • Methods for testing (conformance and compliance testing) • PDCA cycle • Project management • Planning and communication
Intermediate	10.8 Solve conflicting HIS requirements	6	• Information systems design: requirements engineering • Stakeholder involvement • Project management
11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Intermediate	11.9 Optimize application development, maintenance, and performance by employing design patterns and by reusing proved solutions	5	• Workflow reengineering, workflow design techniques • System development life cycle

Intermediate	11.10 Verify test script accuracy	4	• Test planning • Test specifications • Test execution • Test results (recording) • Test completion (confirmation)
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Intermediate	12.1 Assess the integrity of the system by troubleshooting, maintenance, and upgrades including controlling the application of functional updates, software or hardware additions and maintenance activities	5	• Authentication, encryption, password management • Access logs • Needs assessment
Intermediate	12.2 Assess the health ICT infrastructure and problem management process to identify failures and resolve with minimum outage	5	• Issue tracking, facilitation techniques, opportunity costs • Project management • Communication techniques and planning
Intermediate	12.3 Manage resource allocations, costs, and budget required for operational management and support of the health information system infrastructure in line with service level agreements	5	• Accounting • Cost/benefit analysis • Outsourcing, acquisition
13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Intermediate	13.1 Appraise current laws and standards related to health information initiatives	5	• Information governance • HIT standards for HIM practices • International, National, and Regional Health information laws and regulations • International, National, and Regional laws and regulations pertaining to health information privacy, security, and infrastructure • Accreditation standards related to health information • Healthcare legal terminology
Intermediate	13.2 Determine processes for compliance with current laws and standards related to health information initiatives and revenue cycle	5	• Information governance • HIT standards for HIM practices • Data security • Audits, controls, data recovery e-security • Disaster recovery planning • Business continuity planning

Intermediate	13.3 Evaluate compliance with policies and procedures related to health information practices	5	• Policies and procedures to align with regulatory and accreditation requirements • Managerial functions related to control
Intermediate	13.4 Determine policies and procedures to monitor abuse or fraudulent trends	5	• Patient verification and identity management policies • Privacy, confidentiality, security principles, policies and procedures, country or region-specific laws • E-Discovery
Intermediate	13.5 Assess departmental and organisational survey readiness for accreditation, licensing and/or certification processes	5	• Review of policies, procedures, and operations • Audit and tracer activities • Managerial functions related to planning and organizing
14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability

Intermediate	14.1 Compile organisation-wide health record documentation guidelines	6	• Information governance • HIT standards for HIM practices • Standards and regulations for documentation • The Joint Commission, CARF, CMS* • Health record documentation policies and procedures • Health record laws
Intermediate	14.2 Interpret health information standards	5	• Health information management practice standards and regulations • Data standards HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Semantic interoperability
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Intermediate	15.1 Manage human resources to facilitate staff recruitment, retention, and supervision	5	• Principles of human resources management • Recruitment, supervision, retention, counselling, disciplinary action
Intermediate	15.2 Ensure compliance with employment laws	5	• International, National and Regional Employment laws, labour laws
Intermediate	15.3 Create and implement staff orientation and training programs	6	• Workforce education and training
Intermediate	15.4 Benchmark staff performance data incorporating labour analytics	4	• Labour trends, market analysis
Intermediate	15.5 Evaluate staffing levels and productivity, and provide feedback to staff regarding performance	5	• Performance standards • Professional development in self and others

Intermediate	15.6 Manage policies related to cultural awareness and diversity	5	• Diversity awareness training programs: age, race, sexual orientation, education, work experience, geographic location, disability • Regulations such as ADA, EEOC
Intermediate	15.7 Apply negotiation, mediation, advocacy, people management principles to resolve conflicts and achieve outcomes	3	• Employ resolution tactics • Team building/collaboration exercises • Establish an existence of respect and positivity within the workplace • Determining conflict management style (Leadership) • Scientific methods for conflict management o ERI (Emotions-reasons-intuition) approach • Conflict risk assessment
Intermediate	15.8 Analyze methods to empower, delegate and promote improvement within a healthcare team	4	• Employ appropriate disciplinary actions/measures • Proper documentation of conflicts for legal purposes • Trust, confidence and self-awareness (in order to master the skill of delegation) • Perform various QI tools to increase the level of quality within the workplace • Mentorship (mentor and mentee relationship) • Psychometric analysis/measurement • Benefits of healthy workplace conflict • Workplace needs assessment • Job design/redesign
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards

Intermediate	16.2 Manage information as a key strategic resource and mission tool	5	• Information governance • Mentorship (mentor and mentee relationship)
Intermediate	16.3 Manage stakeholder expectations and relationships to ensure the information governance framework is applicable and maintained	5	• Psychometric analysis/measurement
Intermediate	16.4 Analyze business processes and associated information requirements and provide the most appropriate information structure	5	• Information Systems: requirement analysis • HIT standards for HIM practices • Benefits of healthy workplace conflict
Intermediate	16.5 Promote high-quality care by promoting the safe, effective, and appropriate use of information	5	• Information governance • Patient safety principle • Data integrity • Quality improvement principles
17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*
Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates

Intermediate	17.1 Interpret jurisdictional laws and regulations applicable to healthcare information	5	• Information governance: protection, transparency, compliance • Designated record set/legal health record • Minimum necessary standard • Individual rights to privacy and access • Gap analysis • e-Discovery*
Intermediate	17.2 Analyze legal concepts and principles to the practice of health information protection	4	• Information governance: protection, transparency, compliance • Privacy, confidentiality, security principles, policies and procedures, federal and state laws • e-Discovery*
Intermediate	17.3 Analyze privacy, security, and confidentiality policies and procedures for internal and external use and exchange of health information	4	• Information governance: protection, transparency, compliance • Patient verification and identity management policies • Privacy, confidentiality, security principles, policies and procedures, federal and state laws • e-Discovery*
Intermediate	17.4 Recommend elements included in the design of audit trails and data quality monitoring programs	5	• Information governance: audit and protection • HIT standards for HIM practices • Data security • Audits, controls, data recovery e-security • Disaster recovery planning • Business continuity planning
Intermediate	17.5 Collaborate in the design and implementation of risk assessment, contingency planning, and data recovery procedures	4	• Information governance: protection • HIT standards for HIM practices • Health information archival and retrieval systems • Data security protection methods • Authentication, encryption, decryption, firewalls
Intermediate	17.6 Analyze the security and privacy implications of mobile health technologies	4	• Information governance: protection • HIT standards for HIM practices • Security threats of mobile device, healthcare delivery via mobile devices • Firewalls/encryption
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
Intermediate	18.1 Examine compliance with security management measures/indicators and decide if compliant to information security policy	4	• Information governance: compliance and protection • HIT standards for HIM practices • Compliance regulations • Regulatory changes • Policies and procedures • Privacy and security • Key performance indicators • Audit approaches and concepts
Intermediate	18.2 Manage remedial measures to address any security breaches	5	• Information governance: compliance and protection • HIT standards for HIM practices • Data protection • Security measures • Access protocols • Education and training principles • Management function of control • Concepts related to accountability
19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*

Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Intermediate	19.1 Determine departmental and organisational readiness for accreditation, licensing and/or certification processes	5	• Needs assessment and readiness surveys
Intermediate	19.2 Apply general principles of management in the administration of health information services	3	• Communication and interpersonal skills • Emotional intelligence • People developer/staffing mentor • Negotiation • Leadership and governance • Information governance • HIT standards for HIM practices
Intermediate	19.3 Facilitate meetings	4	• Facilitating, networking Meetings with executive boards and other high level organisation groups, interdisciplinary committees
Intermediate	19.4 Take part in effective negotiating and use influencing skills	4	• Negotiation techniques
Intermediate	19.5 Discover personal leadership style using contemporary leadership theory and principles	3	• Professional development for self • Role of HIM in the C-Suite • Leadership practices and professional development
Intermediate	19.6 Create health information related policy	6	• HIM guidelines and policy creation • Information governance • HIT standards for HIM practices
Intermediate	19.7 Apply leadership principles and concepts in the healthcare environment	3	• Leadership styles & Management styles • Communication • Delegation
Intermediate	19.8 Apply emotional intelligence and relationship building techniques to achieve outcomes within a healthcare setting	3	• Self Awareness: Strengths& Weaknesses • Communication: written, verbal, virtual • Team building • Succession planning
Intermediate	19.9 Apply strategic thinking principles to achieve outcomes	3	• Benchmarking • Quality management programs • Objectives/action plans
Intermediate	19.10 Facilitate visions and goals and integrate them with processes and outcomes	4	• Environmental scan • Strategic planning

20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Intermediate	20.1 Apply project management techniques to ensure efficient workflow and appropriate outcomes	3	• Gantt Charts • Benchmarking • Risk Analysis • Team Structure • Software applications
Intermediate	20.2 Create complex documents of the project	6	• Project charter • Work breakdown structure • Risk and issue logs, mitigation plan • Final project report • Communication plan • Stakeholder analysis management plan • Software applications
Intermediate	20.3 Facilitate project management by integrating work efforts	4	• Issue tracking, facilitation techniques, opportunity costs • Project management/Project milestones • Interactivity dependencies and timing constraints • Resources (time, people, money) • Change requests from stakeholders
Intermediate	20.4 Build effective teams	6	• Interdisciplinary workgroups and project teams • Communication plans • Team charter

21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Intermediate	21.1 Evaluate specialist knowledge to inform the purchasing process	5	• Purchasing process policies • Purchasing process • User/organisational needs • Vendor selection process (product selection) • Purchasing budgets • RFPs (solicit vendor bids) • Project management • Purchasing contracts
Intermediate	21.2 Evaluate performance, cost, timeliness and quality information to select suppliers, products, and services	5	• Purchasing • Vendor selection process (product selection) • Decision matrix (vendor) • RFPs (solicit vendor bids) • Purchasing budgets
Intermediate	21.3 Evaluate vendor contracts and service level agreements	5	• System acquisition and evaluation • Contract management • Vendor selection process (product selection) • Contracts evaluation/analysis/reviews
Intermediate	21.4 Take part in negotiations related to contracts and/or service level agreements	4	• Negotiation techniques • Risk and revenue assessment • Effective communication strategies
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Intermediate	22.1 Examine quality and process indicators and propose remedial action	4	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • CDI concurrent, retrospective, post-bill review • CDI metrics and reporting process • Joint Commission*, DNV (ISO 9001) • Structure, process, outcome framework • Benchmarking • Outcomes measurement • Quality management models
Intermediate	22.3 Take part in creating review indicators, reports, data aggregation protocols, criteria sets and score measures in line with clinical decision making, decision support and evidence based requirements	4	• Key performance indicators (clinical; business; financial; organisational, etc.) • Data sets • Nature of the data • Derived data • Interfaced data
Intermediate	22.4 Analyze systems for quality maintenance and consistent outcomes within the healthcare setting	4	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Data collected and datasets maintained are derived from and consistent with identified internal and external benchmarks; accreditation/certification/licensure guidelines; and published best

Intermediate	22.5 Manage health information to maintain quality improvement and patient safety, accreditation evidence and benchmarking	5	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Data collected and datasets maintained are derived from and consistent with identified internal and external benchmarks; accreditation/certification/licensure guidelines; and published best practices
Intermediate	22.6 Analyze data and act accordingly to maintain quality and patient safety	4	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Multi-level database queries and report generation • Measures, metrics and reports are aligned with and consistent with identified quality and patient safety goals
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees
Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
Intermediate	23.1 Apply principles of research and clinical literature evaluation	3	• Outcomes related research • Research articles/literature
Intermediate	23.2 Identify processes and policies for research review boards (e.g., Institutional Review Board (IRB))	3	• Characteristics of research: Processes o Design o Method o Pilot

Intermediate	23.3 Take part in the development of study design (e.g., an epidemiological study)	6	• Research designs: Qualitative, Quantitative, Mixed Methods
Intermediate	23.4 Apply research presentation skills	3	• Research data presentation
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Intermediate	24.1 Apply principles of risk management to mitigate identified risks	3	• Information governance: protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications • Fraud detection • Education and training principles • Privacy and security laws and regulations, adult education strategies, training methods • Risk identification • Problem analysis • Compliance concepts • Risk mitigation • Incident reporting systems
Intermediate	24.2 Promote the organisation's risk analysis outcomes and risk management processes	3	• Information governance: retention, disposition, and protection • HIT standards for HIM practices • Health information archival and retrieval systems • Data security protection methods • Authentication, encryption, decryption, firewalls • Mitigation strategies • Policies and procedures • Culture of compliance

Intermediate	24.3 Apply decision making and risk management methodologies to healthcare specific leadership challenges	3	• Risk analysis • Information gathering • Cause and Effect Analysis
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)

Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis
Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Intermediate	25.2 Identify the functions and relationships between healthcare classification systems and terminologies	3	• Healthcare classification systems and taxonomies • ICD, CPT, SNOMED CT, DSM, RxNorm
Intermediate	25.3 Map terminologies, vocabularies, and classification systems	3	• Standard clinical terminology to a HIPAA code set maps • LOINC to CPT or SNOMED CT to ICD • Code set to code set maps • One revision of ICD to another
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)
Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems

Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback

Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Intermediate	26.1 Develop a strategic plan	3	• Strategic planning concepts • Organisational mission, vision, and goals • SWOT analysis • Key performance indicators
Intermediate	26.2 Implement a strategic plan	3	• Strategic planning approaches • Communication planning • Identifying strategic goals and objectives • Measurement of key performance indicators
Intermediate	26.3 Utilize enterprise-wide information assets in support of organisational strategies and objectives	3	• Information governance principles • Data and information inventory • Knowledge management concepts • HIT systems interoperability (semantic, technical, and functional) • HIT standards
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan

Intermediate	27.1 Evaluate initial and on-going training programs	5	• Information Systems • Clinical Documentation Improvement • Compliance • Prospective Payment System • CDR • Health information Systems (EHR, LMIS, pharmacy, and other) • Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Intermediate	27.2 Develop training programs and deliver content appropriately to stakeholders	5	• Learning Management Systems • Virtual laboratories • Instructional Design Software tools • Teaching techniques and strategies • Learner competencies • Training records maintenance • Measure of effectiveness
Intermediate	27.3 Take part in communication, training and implementation methods related to health information systems	4	• Assist in Designing, planning and conducting training initiatives • Identify topics important/relevant to deliver/present • Design methods of delivery pertaining selected topics • Create tools and resources such as syllabus, lectures', outlines, schedules, assignments, readings, handouts, evaluations, etc.
28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Intermediate	28.1 Analyze workflow processes and responsibilities to meet organisational needs	4	• Guide/purpose for analysis • User needs
Intermediate	28.2 Construct performance management measures/charts	6	• Statistical process control • Visual representations via charts/graphs and other tools

Intermediate	28.3 Demonstrate workflow concepts	3	• Stakeholder needs assessment • Benchmarking • Employee feedback/input
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Intermediate	29.1 Collaborate with healthcare organisation structures to achieve organisational goals	4	• Approaches to collaboration, communication, and achieving buy-in • Leadership concepts • Leadership styles
Intermediate	29.2 Demonstrate how various healthcare funding models impact data collection and use	3	• Healthcare funding models* • Quality indicator collection and reporting • Government mandated health data collection and reporting
Intermediate	29.3 Evaluate information governance principles to support the management of individual patient, community, national and global health information	5	• Research and statistics • Evidenced-based research • Epidemiology concepts
Intermediate	29.4 Apply public health surveillance and response to public health issues	3	• Epidemiology concepts • Community engagement and outreach

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Advanced	1.1 Apply data analytics tools and methods for trending and reporting	3	• Data extraction/mining • Trend analysis • Data analytics • Data modelling • Data analytics tools • Healthcare data trends • Reporting healthcare data

Advanced	1.2 Design data sources for intelligence extraction	6	• Data sources for statistical testing and applications o EHRs o Clinical data repositories o Patient/population registries o Financial o Patient experience o Costing o Supply chain • Relational databases • Metadata repository • Enterprise data warehouse • Data sources • Extracting and synthesizing from data sources
Advanced	1.3 Formulate business intelligence through data analytics	6	• Analytics focus; retrospective reporting, predictive analytics, suggestive analytics, wellness management, physical and behavioural functional health, and personalized care • Hypothesis generation • Forecast modelling • Automated internal and external reporting • Key performance indicators
Advanced	1.4 Assess information using data visualization techniques	5	• Data presentation • Visual representation: audience/consumer appropriate • Graphics at-a-glance • Analytics available real-time, at the point of care o Entire analytics range from enterprise-level to patient-level o Patient-centred care based upon individual's genetic data
Advanced	1.5 Interpret inferential statistics for business, clinical, and healthcare reporting, research and assessing outcomes	5	• Outcomes research • Evidence-based practice • Inferential statistics • Descriptive statistics • Population-based analytics • T-tests, ANOVA, regression analysis, reliability, validity
Advanced	1.6 Apply statistical business models to leverage enterprise wide information assets	3	• Suggestive analytics • Predictive analytics • Prescriptive statistics • Permanent multidisciplinary collaboration across clinical, administrative and staff business units • Statistical Business model

Advanced	1.7 Apply biostatistics and demographic analysis skills to analyze health data	2	• Small and large scale databases • SQL • SAS • SPSS
Advanced	1.8 Create strategies to utilize health information systems to support clinical decision making and business management using an understanding of biostatistics, epidemiology, information governance frameworks and information systems interoperability	6	• Stakeholder needs assessment (clinical, organisational, other) • Conversant with all stakeholder groups (clinical, executive, business, staff) • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Available data and Methods for data integration and semantic
Advanced	1.9 Provide strategic advice on data utilization, analysis and integration according to best practice standards	6	• Continuous improvement of patient care processes and outcomes • Actionable information; aligned with strategic goals • Favourable trends in many and varied quality, patient safety, service, patient satisfaction and related metrics
2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who

Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Advanced	2.1 Identify stakeholders, their roles and relationships	3	• Champion(s)/supporter(s) • Clinical and administrative support • Cross functional relationships • Internal stakeholders • External stakeholders • Change agents • Change management team
Advanced	2.2 Create the change management plan	6	• Change path • Workflow analysis • Quality improvement process • Executive level support • Survey stakeholders • Team Building Techniques • Learning organisation culture
Advanced	2.3 Implement change management plan	3	• Communication • Change resistance • Deployment of plan • Training and support • Milestones • Stakeholder resistance management • Lewin's three-step model • Kotter's 8 step plan for implementing change
Advanced	2.4 Evaluate the change management plan	5	• User feedback • Customer feedback • Patient feedback • Adjustment(s) • Quality improvement process • Stakeholder performance and acceptance of change • Culture of innovation • Learning organisation adapt and change methods
Advanced	2.5 Manage IT led business change	5	• Human resources • Financial considerations • IT system selection • Project management • Team management • Communication development between departments

Advanced	2.6 Influence organisational and professional behaviour change	5	• Leadership theory • Analytics • Leadership theory • Organisational development theories • Change management theories
Advanced	2.7 Design change management processes	6	• Stages of the Change Curve • Principles of change management o Lead with the culture o Start at the top o Involve every layer o Make the case for change together o Act into new thinking o Engage o Lead outside the lines o Leverage formal/informal solutions • Assess and adapt

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems

Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
Advanced	3.1 Evaluate electronic applications/systems for clinical classification, coding and related content standardization	5	• Computer assisted coding tools • Data Standards (Vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information Content Standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic Interoperability: ISO TC215 Semantic Content Standards • Regulatory impact analysis • Applications/systems • Workflow processes • Project management
Advanced	3.2 Manage applications/systems for clinical classification, coding, and related content standardization	5	• Applications/systems • HIT standards and systems interoperability (semantic, technical, and functional) • Computer assisted coding tools • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Workflow processes
Advanced	3.3 Implement applications/systems for clinical classification, coding, and related content standardization	3	• HIT standards and systems interoperability (semantic, technical, and functional) • Computer assisted coding tools • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Project management
Advanced	3.4 Recommend classification systems and content standards to suit needs of healthcare providers and organisations	5	• Data Standards (Vocabulary, terminology and healthcare classification systems): ICD, SNOMED CT, LOINC, and other • Information Content Standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic Interoperability: ISO TC215 Semantic Content Standards • Healthcare laws and regulations • Payment systems • Risk-adjustment systems

Advanced	3.5 Collaborate with Case-mix Managers	4	• Coding audits • Revenue Cycle Management • Clinical Documentation Improvement • Case-Mix Management • Revenue Cycle Management
Advanced	3.6 Develop clinical coding and semantic interoperability education/training materials	6	• Data Standards (Vocabulary, terminology and healthcare classification systems): ICD, SNOMED CT, LOINC and other • Information Content Standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic Interoperability: ISO TC215 Semantic Content Standards • Healthcare laws and regulations • Third-party reimbursement requirements • Public Health reporting requirements • Training and development methods
Advanced	3.7 Manage public health reporting including morbidity and mortality data to MOH/WHO and other organisations as appropriate	5	• Healthcare laws and regulations • Reporting: Global, National, regional, local regulatory reporting requirements • Electronic data reporting • Data standards (vocabulary, terminology and healthcare classification systems): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards
4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations

Advanced	4.1 Collaborate with healthcare teams on enterprise wide CDI strategic and operational methods	4	• CDI standards and policies • Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Regulatory impact analysis • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)*
5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*

Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Advanced	5.1 Model the use of various data sources for managing health information	3	• Data sources primary and secondary • UHDDS, HEDIS, OASIS* • Specialized data collection systems • Data mapping, data warehousing • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Methods for data integration and semantic interoperability including data mining (NLP), content generation standards (SQL, IHE RFD,
Advanced	5.2 Validate the quality of various data sources according to an appropriate data quality framework	3	• Access control mechanisms • Input validation • Defence in depth theory of validation • Whitelisting/blacklisting • HIT standards for systems interoperability
Advanced	5.3 Compile data from various data sources	6	• Enterprise reporting tools • Presentation tools • HIT standards and systems interoperability • Information governance for data availability, integrity and protection
Advanced	5.4 Integrate data from various data sources	6	• Data sources primary and secondary • UHDDS, HEDIS, OASIS* • Specialized data collection systems • Data mapping, data warehousing • HIT standards and systems interoperability • Information governance for data availability, integrity and protection

Advanced	5.8 Develop data management policies	6	• Business analytics management • Clinical analytics management • Medical decision-making • Healthcare research analytics management • Information governance for information retention • Information systems interoperability (semantic, technical and functional) • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR)
Advanced	5.11 Develop and/or recommend improvements policies, processes, methodologies and implementation procedures to ensure they are aligned with contemporary and best practice clinical and technological advancements	6	• Clinical Documentation improvement • Patient generated data • Mobile Health data integration • Information governance • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability
Advanced	5.12 Develop and/or recommend effective communication strategies, training and implementation methods related to health information systems	6	• Requirements engineering • Communication feedback loop • Professional development • Effective measurement o Surveys o Focus groups o Blocks/Barriers
Advanced	5.13 Propose, implement and manage effective record and system disaster recovery and management protocols and procedures	6	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
Advanced	5.14 Verify accuracy, completeness, and relevance of data and data sources for patient care, management, billing reports, registries and/or databases	4	• Clinical documentation improvement • Population health management • Quality outcomes • Information governance for data integrity • HIT standards for semantic Interoperability (ISO TC215)

Advanced	5.15 Create information from secondary data sources	6	• Information governance for data integrity • HIT standards for semantic Interoperability (ISO TC215) Specific examples of secondary uses of clinical data may include: • Trend identification • Population health management • Quality initiatives • Resource management

6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)

Advanced	6.1 Develop performance improvement programs	6	• Quality assessment and improvement • Information integrity policies and standards • Performance improvement model for o Collecting data o Tracking data o Analyzing and interpreting data • Decision support

7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*
Advanced	7.1 Create an ethical business culture	6	• Social consciousness • Ethical decision making • Professional and personal ethics • Organisational ethics • Ethics and compliance programs and committees
Advanced	7.2 Design ethical research models	6	• Evidence based practice • Research integrity • IRB • Qualitative and quantitative research methods • Research ethics and integrity • CITI • Patient rights and advocacy

Advanced	7.3 Create programs and policies that support a culture of diversity	6	• Diversity awareness training programs: age, race, sexual orientation, education, work experience, geographic location, religion • Cultural competence • International, National, and Region-specific laws or regulations pertaining to disability in the workplace and non-discrimination in employment and personnel management
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
Advanced	8.1 Evaluate information assets	5	• Capitalization • Mergers and acquisitions • Resource planning and forecasting • Value-based purchasing • Performance-based reimbursement • Healthcare economics • Accounting principles • Data Licensing • Data use agreement • Business plans
Advanced	8.2 Perform break-even calculations	3	• Break-even analysis • Expenses and revenue
Advanced	8.3 Develop budget	6	• Budget types and principles • Cost-benefit analysis • Capital expenses • Operating expenses • Line officer accountability and relationship to management
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Advanced	9.1 Mitigate access and report and monitor risks	5	• Information governance: protection • Case risk analysis, mitigation ,and management • Breach analysis and notification requirements • Gap analysis of current policies and procedures
Advanced	9.2 Comply with health information exchange policies and standards and maintain the balance between transparency and confidentiality	6	• Information governance: availability, protection, transparency • HIT standards for HIM practices • Audit policies and procedures • Staff education and training
Advanced	9.3 Lead the development of policies for health information exchange (HIE)	6	• Federal and state privacy and security laws and regulations • Information governance • Risk assessment, evaluation, and management • Business continuity planning
Advanced	9.4 Manage breaches of policies/procedures and protocols effectively	5	• Information governance: protection • Case risk analysis, mitigation, and management • Breach analysis and notification requirements
10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources
Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices

Advanced	10.2 Develop the organisational strategy for health information management systems compliant with business needs taking into account the current technology platform, obsolescent equipment, and latest technological innovations	6	• Database design and administration • Data warehousing • Population databases • Secondary and derived databases • Legal health record • Designated data set • Programming languages • SQL • Java • Retention/archival strategies and policies
Advanced	10.3 Lead the support of the customers (internal or external) business needs and strategy to offer possible solutions and suppliers	6	• Professional networking
Advanced	10.4 Plan strategic decisions relevant to future health ICT solutions for customer-oriented processes, new business products and services	6	• Return on investment • Cost-benefit analysis • Regulatory requirements • Quality improvement • Patient safety • Risk management
Advanced	10.5 Evaluate the status quo and provide strategic leadership for the introduction of revolutionary concepts	5	• Environmental scanning • Strategic planning and management • Policy management
Advanced	10.6 Develop information systems in line with clinical decision making, decision support and evidenced based requirements	6	• Comprehensive environmental scans • System development lifecycle • Integrated support systems
Advanced	10.7 Specify HIS requirements	6	• Information systems design: requirements engineering • Constructivist model
11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data

Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Advanced	11.5 Ensure system functionality meets clinical requirements	5	• Test cases • Use cases • End to end testing (stakeholder criteria met?)
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Advanced	12.1 Lead problem management process ensuring trained human resources, tools, and diagnostic equipment are available to meet incidents	6	• Disaster preparedness • Contingency planning • Communication planning
Advanced	12.3 Construct escalation processes to ensure that appropriate resources can be applied to each incident	6	• Incident reporting procedures • Communication planning • Policy and procedure creation • Contingency planning
13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Advanced	13.1 Integrate data analytics for regulatory compliance measures	6	• Data mining • Statistics • Trend analysis presentation and communication
Advanced	13.2 Formulate organisational compliance programs and policies	6	• Compliance strategies and policies • Risk management/Patient Safety • Risk analysis • Mitigation

Advanced	13.3 Analyze standards and regulations in healthcare and how they drive and/or constrain operations	4	• Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • HIT standards for HIM practices • HIPAA, ARRA, HITECH, Meaningful Use, ACOs, ACA, GINA, Medicare/Medicaid* • E-discovery • Stark • Red Flag • International law • National, regional, and/or country or region specific laws • Public policy and lobbying efforts • Advocacy
Advanced	13.4 Integrate compliance standards into workflows for handoff and documentation	6	• Information governance • HIT standards for HIM practices • Operations management
Advanced	13.5 Solve noncompliance problems in accordance with policies and procedures related to health information practices	6	• Incident identification, evaluation, and reporting • Staff training and development
Advanced	13.6 Develop forensic models for surveillance and improvement measures	6	• Trend analysis presentation and communication
14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records

Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
Advanced	14.1 Differentiate the roles and responsibilities of health professionals to support information flow, documentation requirements throughout the continuum of healthcare	5	• Policy and Process specifications • Education and Training • Workflow analysis
Advanced	14.2 Apply biostatistics and demographic analysis skills in health information management	3	• Applied statistics • Descriptive, predictive, and prescriptive analytics • Epidemiology concepts • Morbidity and mortality concepts
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Advanced	15.1 Leverage human capital	5	• Leadership skills • Mentoring • Partnerships/alliances • Networking • Professional development in self and others
Advanced	15.2 Analyze information quickly	4	• Data/Information analysis • Interpretation • Data/Information abstracting • Critical thinking

Advanced	15.3 Ensure the skills needed to contribute to the department's success, and that staff are motivated to grow and learn	5	• Performance evaluation/annual reviews • Employee goal setting • Professional development • Continuing education • Motivation • Mentorship/apprenticeship
Advanced	15.4 Ensure that the relationship between the department and staff is managed within a clear and appropriate framework	5	• Cross departmental collaboration • Teamwork • Effective communication • Team building
Advanced	15.5 Ensure critical skills, experience, and performances are rewarded	5	• Employee recognition system (including measurement to determine reward) • Intrinsic and extrinsic acknowledgement • Performance Loop, continuous monitoring/evaluation • Employee evaluation/reviews (previous work experience, education, skill sets etc.)
Advanced	15.6 Develop policies that take into consideration issues related to culture and diversity	6	• Cultural/Diversity awareness training programs: age, race, sexual orientation, education, work experience, geographic location, disability • Regulations such as ADA, EEOC (or similar country specific regulations)
Advanced	15.7 Solve conflict using mediation and conflict resolution techniques	6	• Understanding the types of workplace conflicts o Personality o Leadership style o Gender, cultural, and religious differences etc. o Internal (self-confidence, validation, past experiences, appearances, self-esteem etc.) • Change management • Conflict risk assessment • Interpersonal analysis • Mediator (neutral party) • Personality/characteristics measure • Identify appropriate disciplinary actions/measures • QI tools (root cause analysis aka fishbone diagram) to identify major source of conflict' • Negotiation techniques to resolve conflict • Employee assistance program (EAP) counselling; referral's for clinical assistance

Advanced	15.8 Master the skills of empowerment, delegation and promotion of continuous quality improvement within a healthcare team	6	• Employ appropriate disciplinary actions/measures • Proper documentation of conflicts for legal purposes • Trust, confidence and self-awareness (in order to master the skill of delegation) • Perform various QI tools to increase the level of quality within the workplace • Mentorship (mentor and mentee relationship) • Psychometric analysis/measurement • Benefits of healthy workplace conflict
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards
Advanced	16.1 Apply enterprise-wide strategic planning and design information management tools, resources for operational data flow and mission-critical business decisions	6	• Information governance • HIT standards for HIM practices • Requirements engineering
Advanced	16.2 Integrate business intelligence using appropriate analytic tools and methods	6	• Big data • Semantic interoperability • Data mining • Information governance • Cyber security methods and theory
Advanced	16.4 Govern information assets within the governance framework to ensure information is available to meet the organisation's objectives	6	• Collaboration techniques • Accountability • Information governance principles • Inventory of data sources

Advanced	16.5 Lead for IT governance strategies by communicating, propagating and controlling relevant processes across the entire IT infrastructure	6	• Marketing strategies • Strategic positioning • Negotiation skills • Political navigation skills • Cross departmental collaboration • Effective and timely communication • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
Advanced	16.6 Construct an IT governance strategy incorporating it into an organisation's corporate governance strategy	6	• Mission, vision and values • Project management • Leadership • Organisation Long-term & short-term IT goals (strategy) • User/Organisational Needs (IT) • Organisational/Support • Organisational Transparency (communication) • Benchmarking • Analysis and integration • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
Advanced	16.7 Ensure the IT governance strategy takes into account new significant events arising from legal, economic, political, business or environmental issues	6	• Leadership • Internal/External forecasting (legal, economic, political, and environmental) • External networking • Board of Directors influence/insight
Advanced	16.8 Integrate an appropriate information structure into the corporate environment	5	• Organisational culture • Analysis and integration • User/organisational needs (IT) • Organisational/support • Organisational transparency (communication) • Data/information flow • Processes and procedures • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices

17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*
Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates
Advanced	17.1 Design a privacy and security infrastructure	6	• International, National, and Regional privacy and security laws and regulations • Information governance: protection • HIT standards for HIM practices • Risk assessment, evaluation, and management
Advanced	17.2 Create regulatory policies based on health laws	5	• Information governance: protection and compliance • Compliance monitoring • Breach consequences • Internal quality assessment

Advanced	17.3 Integrate privacy and security standards in the organisation	6	• International, National and Regional laws and standards as appropriate for country o HIPAA regulation* o FDA regulation* o Stark Laws • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
Advanced	17.4 Lead the implementation of risk assessment, contingency planning, and data recovery procedures	6	• Information governance: availability, retention, disposition, integrity, protection, compliance, audit, transparency • HIT standards for HIM practices • Case risk analysis, mitigation, and management • Breach analysis and notification requirements
Advanced	17.5 Oversee the security and privacy implications of mobile health technologies	5	• Information governance: protection • PHI/breaches • Identity theft • Patient portals • Organisational policy • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
Advanced	17.6 Develop educational programs for employees in privacy, security, and confidentiality	6	• Information governance: protection, compliance, audit • In-service programs for employees • Ethics training • Code of Ethics • Organisational policy • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices

18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
Advanced	18.1 Integrate expertise external standards and best practices	6	• Information governance: compliance and protection • HIT standards for HIM practices • Evidence-based policy and practice evaluations
Advanced	18.2 Provide strategic leadership to embed information security into the culture of the organisation	6	• Information governance: compliance and protection • HIT standards for HIM practices • Organisational culture considerations • Approaches to achieving buy-in • Collaboration and effective uses of committees
Advanced	18.3 Lead organisational initiatives related to integrity, confidentiality and availability of data stored on information systems and comply with all legal requirements	6	• Staff training and development • Leadership concepts • Information governance principles • HIT standards for HIM practices
19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Advanced	19.1 Implement health information policies	3	• Policy guidelines • International, National and Regional laws and standards • Information governance • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Communication plan
Advanced	19.2 Build sustainable strategic business alliances, networks, and partnerships	6	• Negotiation, mediation, arbitration skills • Communication skills • Critical thinking skills • Social and emotional intelligence skills • Creative thinking skills • Entrepreneurship
Advanced	19.3 Analyse and apply leadership principles and concepts in the healthcare environment	4	• Leadership styles & Management styles • Behaviour modelling
Advanced	19.4 Evaluate emotional intelligence and relationship building techniques to advocate high quality outcomes within a healthcare setting	5	• Organizational culture and climate • Change management • Motivation
Advanced	19.5 Determine innovative and creative strategies for healthcare delivery	5	• 80/20 system • Evidence based practice • Insight/foresight

Advanced	19.6 Develop visions and goals that facilitate continuous quality improvement within the healthcare setting	6	• Forecasting • Strategic planning • Information governance • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Evaluation of outcomes • Quality Management Programs
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Advanced	20.1 Assess project management tools	5	• Software applications • Data demonstration, dashboards • Gantt charts, cause and effect diagram
Advanced	20.2 Oversee complete project plan	5	• Project strategy • Project scope • Resource management (people, cost, time) • Workflow
Advanced	20.3 Develop collaborative alliances and partnerships to effectively manage complex projects	6	• Professional networking • PMP Certification • Team building • Stakeholder input • Modification management

Advanced	20.4 Evaluate applied research tools and methods to integrate best practices in project planning and management	5	• Contingency planning • Project management principles
21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Advanced	21.1 Lead application of the organisation's procurement policies and enhancements	6	• System acquisition and evaluation • RFI, RFP • Policy and procedure development • Development of procurement manual • Procurement measures/auditing tool
Advanced	21.2 Develop negotiation skills related to contracts and/or service level agreement	6	• Contract management process • Negotiation strategies • Effective communication and listening • Awareness of Business/HIM Ethics • Bargaining techniques • Financial analysis/feasibility
Advanced	21.3 Design comparative research models for vendor solutions	6	• Benchmarking • Environmental scanning • Exploration of comparative research models • Decision matrix (vendor selection)
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Advanced	22.1 Assess the degree to which quality requirements have been met	5	• Information governance: availability, integrity, retention and protection • HIT standards for HIM practices including CDI practice standards • Regulatory impact analysis • Continuous performance • Improvement initiative
Advanced	22.2 Lead quality policy implementation	6	• Information governance: availability, integrity, retention and protection • Infection prevention and control • Continuous quality improvement (CQI) • Patient safety • Organisational culture • Project management • Implementation • Policy and procedure development
Advanced	22.3 Lead setting quality standards across cross functional units	6	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical. and functional) • HIT standards for systems interoperability • Outcomes measurement • Population health management • Predictive analytics • Root cause analysis • Organisational culture • Cultural competency/diversity • Assess/benchmark • Communication • Train/education • Monitor, evaluate, recommend

Advanced	22.4 Utilize external quality standards and best practices	3	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices including CDI practice standards • Benchmarking • Evidence-based care • Triple aim • Implementation/integration • Interpretation and communication
Advanced	22.5 Lead organisational strategy to embed quality (i.e., metrics and continuous improvement) into the culture of the organisation	6	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Patient safety • PDSA models • Lean/Six Sigma models • Statistical process control techniques
Advanced	22.6 Evaluate and recommend improvements to systems for quality maintenance and consistent outcomes within the healthcare setting	5	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Patient registration, admission, discharge, transfer • Patient management • Lab, radiology, pharmacy • Clinical decision support • Computerized provider order entry • Encoder • Patient financial services • Budget/general ledger • Cost accounting

Advanced	22.7 Oversee organisation accreditation status and demonstrate continuous improvement in a health service using internal and external data for benchmarking	5	• Medical staff committees • Medical staff credentialing • Administrative committees • Plan, Do, Check/Study, Act • Favourable trends over time • Data-driven • Evidence-based • Across continuum of care • Longitudinal (over patients' lifetime)
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees
Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
Advanced	23.3 Conduct research in health information	6	• Health related research/investigations
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention

Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Advanced	24.1 Develop and maintain a risk management program	6	• Information governance: protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications • Compliance strategies and policies • Risk management/patient safety • Risk analysis • Mitigation • Incident reporting processes • Stakeholders and collaboration • Practice standards/guidelines • Purpose/need • Organisational mission, vision, values • Project leadership requirements • Software applications/tools • Risk reporting • Training/education/in-service education
Advanced	24.2 Evaluate evidence-based decision making and risk management methodologies to promote high quality leadership outcomes	5	• OODA Loop • PDCA
Advanced	24.3 Manage and mitigate risks prior to incidents occurring	5	• Risk aversion • Risk valuation
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)
Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis

Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)
Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems
Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other

Advanced	25.1 Apply knowledge of interoperability and HIT standards to lead deployment of standards-based interoperable HIT solutions	3	HIT systems interoperability (semantic, technical, and functional) • HIT standards • HIT standardization phase: deployment
Advanced	25.2 Interpret terminologies, vocabularies and classification systems	5	• SNOMED CT • LOINC • ICD • UMLS • Metadata • Primary and secondary uses
Advanced	25.3 Construct examples of mapping of clinical vocabularies and terminologies to appropriate classification systems	6	• ICD-10-CM/PCS to ICD-11-CM/PCS • ICD-11-CM/PCS to SNOMED CT • Mapping between disease classifications
Advanced	25.4 Apply knowledge of interoperability and HIT standards to participate in standards development activities	3	• Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP, and other • HIT systems interoperability (semantic, technical and functional) • HIT standards • HIT standardization phases: needs identification, standards development, standards selection and harmonization, standards testing, standards-based product certification and deployment
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback
Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.1 Evaluate a strategic plan	5	• Accreditation/certification standards • Benchmarking
Advanced	26.2 Evaluate healthcare policy-making's direct and indirect impact on national and global healthcare delivery systems	5	• Policy making body of knowledge • International, National, and Regional laws and standards • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.3 Design enterprise-wide strategic planning research models and methods	6	• Performance improvement models • Business intelligence • Evidence based practice • Epidemiological research methods • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.4 Propose innovative, healthcare policies for national or global healthcare delivery system	6	• International, National, and Regional initiatives and guidelines o Healthy People 2020* o WHO o IOM reports* o CDC* • HIT systems interoperability (semantic, technical, and functional) • HIT standards

Advanced	26.5 Lead the construction and implement long-term innovative information governance and Information system solutions	6	• Information governance • Organisational strategy for operations • Internal/external stakeholders • Collaboration • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.6 Promote consensus and commitment of the management team of the enterprise	3	• Professional networking • Marketing strategies • Strategic positioning • Negotiation skills • Political navigation skills • Communication plan
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan
Advanced	27.1 Model the training and professional development program	6	• Professional development • Needs assessment • Flow chart/work charts (tools/guides) • Education plan; instructional models and theories
Advanced	27.2 Manage training and education schedules to meet market needs	5	• Communication • Planning/organisation • Time management • Needs assessment • External market scan/benchmark
Advanced	27.3 Design, evaluate and manage training programs for the appropriate management of health information	6	• Mock In-service education/training • User Needs • Measuring effectiveness • Survey/Questionnaires

28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Advanced	28.1 Analyze workflow design and process	3	• Definitions/standards • Guide/purpose for analysis • User needs • Use cases
Advanced	28.2 Design and implement process improvement	6	• PDSA • Six Sigma • DMAIC • Statistical Process Control
Advanced	28.3 Evaluate process improvement outcomes	5	• Benchmarking • Employee feedback/input • Analysis • Monitoring • Evaluations • Tools of measurement
Advanced	28.4 Create metrics for benchmarking and reporting	6	• Benchmarking process • Cost benefits analysis • Target measure establishment and evaluation • Process mapping tools • Analytical tools
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Advanced	29.1 Leverage local and international (where relevant) healthcare organisations to ensure best practice performance within the enterprise	5	• Evidence-based practices • Data analytics • Benchmarking processes implementation • Stakeholder identification
Advanced	29.2 Analyze various healthcare funding models to support healthcare operations	4	• Healthcare funding models including* o Public and social payers o Private insurance o Self-pay o Charity care
Advanced	29.3 Design and implement health information management system to support public health needs	6	• Jurisdictional and national laws, regulations, and policies to protect the health of the public • Public health reporting • Needs assessment techniques • Stakeholder identification
Advanced	29.4 Assess population based community health information system	5	• Research information systems • Information governance principles for research • Comparative-effectiveness research principles • Epidemiological research studies development • Needs assessments techniques

Advanced	29.5 Implement health information system applications to streamline the process of public healthcare service delivery	5	• Health information systems • Health information exchange • Information governance • Information systems interoperability (semantic, technical; and functional) • HIT standards • Mobile applications • Consumer-facing health information technologies such as patient portals
Advanced	29.6 Apply public health surveillance and response using various information systems and analytical tools including GIS	3	• Jurisdictional and national laws, regulations, and policies to protect the health of the public • Public health reporting • Information governance • Information systems interoperability (semantic, technical; and functional) • HIT standards • Data analytics • Visualization tools

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Entry	1.2 Apply data extraction methodologies to report/content generation	3	• Primary and secondary data sources o EHRs o Clinical and public health data repositories o Patient/population registries o Financial databases o Patient experience data o Cost data o Purchasing/supply chain data • Relational databases • Metadata repository • Data mining (NLP) • Report/content generation tools and principles (SQL, IHE RFD, SDC)

Entry	1.3 Utilize basic descriptive, institutional, healthcare statistics for reporting and data analysis	3	• Analytics focus: Retrospective analysis, Predictive analysis and suggestive analysis • Frequencies, ranges, rates, percentages • Averages/means, medians • Normal distribution, standard deviation • Correlation • Biomedical research theory • Universal ethical standards for research (e.g., Nuremburg, Belmont, and other global standards)
Entry	1.4 Analyze data to identify trends	4	• Trends over time • Benchmarking • Variance analysis o Favourable or unfavourable? • Quality, safety, and effectiveness of healthcare • Data visualization: o Dashboards o Graphs, charts o Gauges o Infographics o Storyboards o Reports • Comparative statistics • Evidence-based practice
Entry	1.5 Explain biostatistics related concepts and terminology	2	• Human genome/genomics • Transcriptomics • Proteomics • Metabolomics • Biomarkers
Entry	1.6 Apply statistical and epidemiological methodologies to utilize data to support clinical guidelines and protocols	3	• Incidence • Prevalence • Clinical outcomes • Clinical guidelines and protocols • Known alternative treatments, medications, modalities, interventions
Entry	1.7 Analyze and report data and statistics for the use of quality improvement, information governance and clinical management	4	• Clinical outcomes • Population health • Business metrics • Internal reporting • External reporting

2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who
Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Entry	2.1 Describe the impact of change management on processes, people, and systems	2	• Communication and network technologies • Theories of change including positive forces (e.g., champion of change) and negative (e.g., resistance to change) • Theories of organisational development and systems management • Workflow analysis and value of individual worker in the process • Communication and network technologies to monitor the progress of change and to communicate change activities (e.g., Gantt chart) • Systems that are impacting change throughout government systems, and healthcare systems. EHR, PHR, HIEs, portals, public health, standards, telehealth
Entry	2.2 Describe change management techniques and processes	2	• Strategy for change preparation • Plans for change implementation • Resistance to change • Impact of change on people and organisation • Celebrate milestone success(es)

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking

4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making.

* represents U.S.-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations

5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Entry	5.2 Apply graphical tools for data presentations	3	• Graphical tools • Presentations (i.e., PowerPoint, Prezi)
Entry	5.3 Apply policies and procedures to ensure the accuracy and completeness of health data	3	• Staff education in data rationale • Data standardization • Data categorization • Stakeholder support • Primary and secondary data sources
Entry	5.5 Describe sources and uses of secondary data	2	• Registries • Internal and external databases

Entry	5.6 Explain record and system disaster recovery and management protocols and procedures	3	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
Entry	5.7 Utilize basic demographic transitional theories	2	• Population health management
6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations. * represents country-specific examples			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*
Entry	7.1 Comply with ethical standards of practice	5	• Role of ethics in history and evolution of HIM practice • Professional and practice-related ethical issues • AHIMA Code of Ethics • Ethical Decision-Making Matrix/Model: steps in the ethical decision-making process • Patient rights • Patient privacy • Autonomy • Professional values and obligations to o Patient o Healthcare team o Employer o Public o Self o Peers o Professional association • Cultural diversity • Human dignity • AHIMA Code of Ethics • World Health Organisation Global Health Ethics (see WHO listing

Entry	7.2 Evaluate the consequences of a breach of healthcare ethics	5	• Breach of healthcare ethics • Ethical issues related to: o Medical identity theft o Documentation o Privacy • Breach protocols (policies and procedures) • Local and international laws
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
Entry	8.1 Explain budgets	2	• Budgets o Budget process (capital v. operating) • Resource planning and allocation o Cost/benefit analysis o Outsourcing, insourcing, acquisition • Staffing, department, capital
Entry	8.2 Explain accounting methodologies	2	• Accounting methodologies • Cost and cash accounting o Cost reporting
Entry	8.3 Explain budget variances	2	• Budget variances
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship

Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Entry	9.1 Apply policies and procedures related to issues of access and disclosure of confidential health information	3	• Terms: privacy, confidentiality, security • Role of HIM professional in development of health information security programs and breach monitoring • Data security threats: o People o Environmental factors o Hardware o Software o Social engineering o Identity theft • Elements of a security program: privacy, integrity, availability: administrative, physical, technical safeguards • Cyber security • Patient specific data releases to authorized users • Access and disclosure policies and procedures
Entry	9.2 Explain current trends and future challenges related to the Health Information Exchange (HIE)	2	• Exchange/sharing of health information • Employer to health provider, health provider to health provider, health provider to employer, facility to facility • HIE • Data quality
Entry	9.4 Explain methods to facilitate effective integration between clinical requirements and system functionality	2	• Workflow analysis and optimization concepts
Entry	9.5 Explain system testing, evaluation and continuous improvement	2	• Test environment concepts • PDCA cycle
Entry	9.6 Summarize the problem and challenges to be addressed through HIS requirements engineering	2	• People vs. technological challenges • Emerging requirements engineering theory

10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.	

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Entry	10.3 Organise the overall planning of the design of an application	3	• Information Systems and applications • User interface design • Data relationships and interoperability • Database management • Project management • Systems development lifecycle • Strategic planning process • System integration • Project management • Team management

11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data

Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Entry	11.1 Develop simple applications or components of applications	6	• Smart device applications (phones, tablets) • C++ • Web-based applications (HTML, Java)
Entry	11.2 Perform system testing under guidance	3	• Alpha and Beta testing • Timing and sequencing of testing • End-user testing
Entry	11.3 Apply standards to define document structure and documentation requirements	6	• HIT standards for semantic interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Interoperability standards (ISO TC215) • HIT standards for HIM practices • Standards development organisations (HL7, ISO, ANSI) • Standards adoption or change process • Proposal, vetting, voting procedure
Entry	11.4 Demonstrate the ability to systematically use the established tools to identify the compatibility of software and hardware specifications	3	• Operating systems, applications, versions • Interoperability/compatibility issues of operating system and applications • Interoperability/compatibility of hardware and software
Entry	11.5 Comply with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability during integration	3	• HIT standards and systems interoperability • Network architectures • Information and data governance policies
Entry	11.6 Demonstrate the ability to systematically build or deconstruct system elements	3	• Hardware performance for optimal system functionality
Entry	11.7 Identify failing components and establishes root cause failures	3	• Troubleshooting procedures • Customer service scenarios
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Entry	12.1 Apply actions to maintain health information system operations and avoid service disruptions in accordance to standards, policies, and requirements	3	• Processes for downtime, backup, and system restoration • Communication planning
Entry	12.3 Analyze health information systems performance data	4	• Strategic and organisational management • Workflow and process monitors • Resource allocation • Outcomes measures and monitoring • Metadata
Entry	12.4 Identify actions to improve service reliability	3	• End-user surveys • Continuous improvement processes (e.g. PDCA) • Qualitative practices to improve system performance
Entry	12.5 Interpret user problems and identify solutions based on basic product knowledge and following standards/policies	5	• Customer service • Interpersonal communication • Continuous learning and professional development • Processes to quickly respond to problems

13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes

Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Entry	13.5 Identify potential abuse or fraudulent trends through data analysis	3	• False Claims Act* • Whistle blower, STARK, Anti Kickback, unbundling, upcoding • Role of OIG, RAC • Fraud/Abuse • Billing data review

14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records

Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Entry	15.4 Recognise cultural awareness and diversity in an organisation	2	• Cultural competence • Healthcare professionals self-assessment of cultural diversity • Self-awareness of own culture • Assumptions, biases, stereotypes
Entry	15.5 Describe negotiation, mediation, advocacy, people management principles	2	• Purpose of negotiation • Types of negotiation tactics/methods • Purpose and role of a mediator • Usefulness of negotiation tactics/methods • People management principles: o Maslow's Hierarchy of Needs o Erikson's life stages

Entry	15.6 Explain methods for empowerment, delegation and promoting improvement	2	• HIM Leader/Manager role • Intrinsic & Extrinsic rewards (motivators) • Employee recognition • Purpose of empowerment, delegation and the promotion of improvement • Benefits of empowerment, delegation and the promotion of improvement • Principles of delegation and empowerment: o Maslow's Hierarchy of Needs o Erikson's life stages • Self-awareness • Confidence building • S.M.A.R.T.E.R (Delegation Rule): o Specific o Measurable o Agreed o Realistic o Timebound o Ethical o Recorded • Impact on the individual and the HIM Department
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards

Entry	16.1 Apply policies and procedures to use of networks, including intranet and internet applications, to facilitate the EHR, PHR, patient portals, public health, and other administrative applications	3	• Internal and external practice standards, regulations, and initiatives • Privacy and security laws • Patient verification • Medical identity theft • Data security concepts • Security processes and monitoring
Entry	16.3 Explain software and network architecture, data warehousing, virtual network storage and applications, security and IT documentation	2	• Models of network architecture • System documentation tools and methods • Cloud computing • Data backup methods • Requirements engineering • Cyber security methods and theory • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices

17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*

Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates
Entry	17.1 Apply confidentiality, privacy and security measures, policies and procedures for internal and external use/exchange to protect health information (regardless of format)	3	• Information governance: protection • HIT standards for HIM practices • Internal and external standards, regulations, and initiatives • Patient verification • Medical identity theft • Data security concepts • Security processes and monitoring • Administrative, physical and technical safeguards
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Entry	19.2 Apply management models, methods and theories	3	• Information governance • HIT standards for HIM practices • C-Suite (within various healthcare environment) o Team leadership concepts and techniques o Management and Leadership roles o Healthcare providers roles and disciplines • Future roles for HIM professionals
Entry	19.3 Describe the differing types of organisations, services, data/information/knowledge management needs, personnel and their interrelationships across the healthcare delivery system	2	• Learning Health System and knowledge management • Information governance • Managed care organisations • ACOs • Payers/providers, all delivery settings • Payers' impact to each delivery setting • Biotech • Medical devices
Entry	19.4 Explain leadership principles and concepts in the healthcare environment	2	• Leadership versus Management • Stages of Team Development
Entry	19.5 Describe emotional intelligence and relationship building techniques	2	• Emotional intelligence • Empathy • Organizational culture
Entry	19.6 Explain strategic thinking principles	2	• Innovation, creativity • Brainstorming • Collaboration
Entry	19.7 Describe the link between visions and goals to processes and outcomes	2	• Vision, Mission, goals • Benchmarking • Strategic plan

20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Entry	20.1 Recognise the process of project planning and related components	2	• Project management methodologies • PMP • Software application
21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors

Entry	21.1 Apply the principles of the procurement process (e.g., orders based on existing contracts)	3	• Procurement considerations for industry sector (public, private, government)/vendor • Procurement o Request for proposal o Request for information • Request for quotation • Ethical and legal procurement considerations • Supply chain management
Entry	21.2 Ensure the correct execution of orders, including validation of deliverables and correlation with subsequent payments	5	• Order tracking through the pipeline • Order reconciliation
Entry	21.3 Explain vendor/contract management	2	• System acquisition and evaluation • Ethical/legal considerations • Global workforce assessment
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Entry	22.1 Communicate application of the organisation's quality policy	3	• Information governance: integrity and audit • HIT standards for HIM practices • Review policies • Training

Entry	22.2 Utilize the organisation's quality policy	3	• Information governance: integrity and audit • HIT standards for HIM practices • Quality assessment and improvement • Process, collection tools, data analysis, reporting techniques • Patient advocacy and education • Patient safety concepts
Entry	22.3 Explain the importance of quality maintenance and consistent outcomes in the healthcare setting	2	• Information governance: transparency and accountability • HIT standards for HIM practices • Community expectations • Ethical responsibility • Medical science best practices • Strategic plan
Entry	22.4 Describe organisation accreditation requirements	2	• Voluntary participation • Requirements vary based on facility type and location (country, region) • Commitment to quality and service
Entry	22.5 Utilize internal and external data for benchmark comparisons	3	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Historical internal data over time • Comparative data for similar facility type, size of organisation, for profit/not for profit and country/region
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees
Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods

Entry	23.1 Describe the concept of research and its impact on outcomes	2	• Evidence-based health practices • Body of knowledge
Entry	23.2 Explain common research methodologies and why they are used in healthcare	2	• Research methodologies • Quantitative, qualitative, and mixed methods
Entry	23.3 Comply with research administrative processes and policies	5	• Research ethics and integrity • IRB • CDC*, WHO, AHRQ*
Entry	23.4 Demonstrate knowledge of research related to HIM for data collection, analysis, and interpretation	3	• Medical/clinical/health-related literature searches • Analysis/evaluation of literature • Information governance: availability, integrity, transparency, protection, retention and disposition • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Entry	24.3 Summarize decision making and risk management methodologies in leadership	2	• Risk identification • Pros and Cons
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)
Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis

Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Entry	25.1 Adhere to HIT standards	3	• Information governance: compliance, availability and integrity • HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC, CPT, RxNorm and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (guidelines, HIM practices) • Interoperability standards (ISO TC215)
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)
Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems

Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback

Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Entry	26.1 Utilize the organisation's strategic plan to ensure alignment with goals	3	• Mission • Vision • Goals/values • Roadmaps • SWOT analysis
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan
Entry	27.1 Explain the methodology of training and development	2	• Orientation and training • Content delivery and media • Roles and competencies of trainers • Training effectiveness (applicable job functions) • Mentor and protégé/mentee relationship • Employee interpretation/interaction
Entry	27.2 Explain the return on investment for employee training and development	3	• Instructional goals • Outcomes evaluation • Employee satisfaction as measure of ROI • Employee and Employer goals • Hiring/firing, cost benefit analysis
Entry	27.3 Explain communication, training and implementation methods related to health information systems	2	• Communication process • Purpose of training • Discuss Method(s) of Delivery: o In-Service o Power Point o Electronic (Recording or Live) o Consultant (External Expert) • Identify audience

28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Entry	28.1 Utilize tools and techniques to monitor, report, and improve processes	3	• QI/PI techniques integrations • Software application • Professional data visualization and display tools
Entry	28.2 Identify cost-saving and efficient means of achieving work processes and goals	3	• Job redesign/enrichment • Employee goal setting • Performance/Employee Evaluation • Work processes design (monitoring)
Entry	28.3 Utilize data for facility-wide outcomes reporting for quality management and performance improvement	3	• Data location for report generation • Data interpretation and analysis • QI/PI report generating • Professional data visualization and display tools
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies

Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Entry	29.1 Describe local healthcare organisation structures	2	• Primary, secondary, and tertiary care • Inpatient versus ambulatory care • Organizational charts and reporting structures
Entry	29.2 Describe healthcare funding models	2	• Public and social funded healthcare delivery systems • Private insurance concepts • Donor-funded health services
Entry	29.3 Describe information systems for health information management at individual patient, community and national levels	2	• Data, information, knowledge, meaning, and wisdom hierarchy • Information governance • Health information systems • Health information systems interoperability • Health information exchange

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Intermediate	1.1 Recommend organisational action based on knowledge obtained from data exploration and mining	5	• Data visualization, power point, dashboards • Data mining and exploration • Power point, dashboards and other visualization

Intermediate	1.2 Analyze clinical data to identify trends that demonstrate quality, safety, and effectiveness of healthcare	4	• Frequencies, ranges, rates, percentages • Averages/means, medians • Normal distribution, standard deviation • Reporting: o Clinical o Financial o Administrative o Internal/external • Healthcare statistical formulas • LOS, death, birth, and other utilization rates • Health data trends
Intermediate	1.3 Facilitate clinical decision support system development and refinement by applying clinical data analytics techniques	4	• Data exploration and mining • Analytics focus; Retroactive reports, predictive analytics, proactive health management, outreach and referrals • Real-time clinician access to standards of care, clinical practice guidelines, and the medical literature at the point-of-care • Clinical decision support system • Clinical data analytics • Techniques for data analytics including data mining (NLP) and use of content generation standards (SQL, IHE RFD, SDC)
Intermediate	1.4 Utilize statistical software for reporting and data analysis	3	• Statistical software • Analyzing and reporting healthcare data • Excel, Access, SQL • Computerized statistical packages o SPSS o SAS o STATA • Crystal Reports
Intermediate	1.5 Analyze statistical data for decision making	4	• Statistical software • Analyzing and reporting healthcare data • New insights via: o Inferential statistics o Descriptive statistics o Population-based analytics o T-tests, ANOVA, regression analysis, reliability, validity • Statistical analysis, healthcare data and decision making

Intermediate	1.6 Analyze, utilize and report data using biostatistical and epidemiology methods to support clinical guidelines and protocols	4	• Incidence • Prevalence • Clinical outcomes • Clinical guidelines and protocols • Efficacy of known alternative treatments, medications, modalities, interventions
2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who
Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Intermediate	2.1 Interpret concepts of change management theories, techniques and leadership	5	• Change Management • Mergers • Risk exposure • Organisational design • EHR implementation
Intermediate	2.2 Identify stakeholders, their roles and relationships	3	• Patients • Clinicians and allied health • Administrative • Board of Directors • Community • Employees
Intermediate	2.3 Evaluate change requirements and utilize specialist skills to identify possible methods and standards that can be deployed	4	• Organisational development role • Organisational behaviour role • Systems analysts role
Intermediate	2.4 Apply change management techniques	3	• Leadership impact in change management • Stages of the Change Curve

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
Intermediate	3.4 Identify the functions of healthcare classification systems and relationships between different classification systems	3	• HIT standards and systems interoperability (semantic, technical and functional) • Healthcare classification systems, and taxonomies • ICD, CPT, SNOMED CT, DSM, RxNorm and other
4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations
Intermediate	4.1 Implement provider querying techniques to resolve coding discrepancies	3	• Query process, written, verbal and template queries, timeliness and interpretation, query retention
Intermediate	4.2 Create methods (e.g., trigger tools) to identify/predict clinical documentation improvement opportunities (e.g., medical/drug errors, manage co-morbidities and complications, hospital acquired conditions)	6	• CDI concurrent, retrospective, post-bill review • CDI metrics and reporting process • CDI program development • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)*

5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*

Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Intermediate	5.2 Format data to satisfy integration needs	4	• Business requirements for data capture, structure, integrity, and use of health information • Functional requirements for information systems to enable data capture, structure, integrity, and use of health information • Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Information exchange standards (HL7, IHE) • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.5 Advocate for systems interoperability and information exchange	5	• Generally accepted information governance principles • HIT standards to support HIM practices • HIT standards for systems interoperability • Stakeholder education in HIE, information governance, and standard for systems interoperability
Intermediate	5.6 Analyze information needs of customers across the healthcare continuum	4	• Capture, structure, manage, integrate, and use of health information • Requirements engineering (workflow and information flow modelling) • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.9 Apply knowledge of information systems to meet organisational needs	3	• Information systems design, development and operation • Requirements engineering • Information systems models (use cases, workflow and information flow, and architecture) • HIT standards and systems interoperability
Intermediate	5.10 Evaluate data from varying sources to create meaningful presentations	5	• Presentation software • Healthcare data • Indices and registries • Semantic interoperability: ISO TC215 semantic content standards

Intermediate	5.11 Implement and maintain policies, processes, methodologies and implementation procedures to support clinical decision making with system integration, interaction and exchange with clinical practice	3	• HIT standards and systems interoperability • Phases of HICT implementation • Provider/Patient portal training • Best practices for HICT implementation* o Define goals o Gain physician champions o Include other stakeholders o Work towards interoperability (define requirements, select standards-based certified ICT product, establish project management (milestones, timeline, documentation), test ICT implementation, train personnel)
Intermediate	5.12 Implement and manage effective record and system disaster recovery and management protocols and procedures	4	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
Intermediate	5.13 Organize and identify characteristics of secondary data for purposes of effective analysis	3	• Registries o Birth o Death o Chronic diseases o Cancer o Infectious diseases • Administrative data o Financial o Human resources o Marketing/Public relations efforts • Other
Intermediate	5.14 Apply of biostatistics and demographic analysis skills in health information management	3	• Best practice development • Clinical documentation • Patient generated data • Mobile health data integration
6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)

7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*

Intermediate	7.1 Promote compliance with ethical standards of practice	3	• Compliance strategies and reporting • Regulatory and licensure requirements • Elements of compliance programs
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
Intermediate	8.1 Evaluate capital, operating and/or project budgets using basic accounting principles	5	• Budget process • Capital and operating expenses • Staffing
Intermediate	8.2 Perform cost-benefit analysis for resource planning and allocation	4	• Accounting • Cost/benefit analysis • Outsourcing, acquisition
Intermediate	8.3 Evaluate the stages of the procurement process	5	• Content of and answers to a request for proposal, request for information and request for quotation
Intermediate	8.4 Plan budget	3	• Operational needs evaluation • Capital needs evaluation • Collaboration with senior leaders and line officers • Short-term and long-term organisational goals
Intermediate	8.5 Develop budget	6	• Types of budgets and budgeting principles • Budget cycles • Accounting principles
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship

Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Intermediate	9.1 Evaluate policies and procedures to appropriately manage access and disclosure of confidential health information	5	• Audit techniques and principles • Principles for releasing PHI • Required elements of an authorization • Designated record set • IRBs • Redisclosure • Tracking disclosures • Principles for releasing PHI • Required elements of an authorization • Encryption/electronic access • Data integrity
Intermediate	9.2 Implement policies and procedures to appropriately manage access and disclosure of confidential health information	3	• Principles for releasing PHI • Required elements of an authorization • Designated record set • IRBs • Redisclosure • Tracking disclosures
Intermediate	9.3 Facilitate appropriate access to electronic health information through confidentiality and security measures, policies and procedures	4	• Principles for releasing PHI • Required elements of an authorization • Encryption/electronic access • Data integrity
Intermediate	9.4 Evaluate the development of operational policies and procedures for health information exchange	5	• HIEs, local, regional including providers, pharmacies, other health facilities • Business associates

Intermediate	9.5 Create operational policies and procedures for health information exchange	6	• HIEs, local, regional including providers, pharmacies, other health facilities • Business associates • Encryption • Data exchange standards
Intermediate	9.6 Conduct system testing to ensure data integrity and quality of health information exchange	6	• Integration, interfaces, and data reliability • Risk analysis
Intermediate	9.7 Evaluate various models for health information exchange	5	• RHIO, HIE • Data exchange standards
10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Intermediate	10.1 Take part in the development of information management plans that support the organisation's current and future strategy and goals	4	• Strategic planning process • Integration of systems • Information management strategic plan • Corporate/Enterprise strategic plan • Stakeholder needs assessment
Intermediate	10.2 Take part in the planning, design, selection, implementation, integration, testing, evaluation, and support of health information systems and technologies including designing for patient safety	4	• Facilitation, networking, consensus building • Meetings with executive boards and other high level organisation groups, interdisciplinary committees • System acquisition and evaluation • Contract management • RFI and RFP
Intermediate	10.3 Demonstrate relevant health information and communication technology and specifications to be deployed in the construction of multiple health ICT projects, applications or infrastructure improvements	3	• Information Management Plan, information as an asset • Integration, interfaces, and data reliability
Intermediate	10.4 Ensure that an application is correctly integrated within a complex environment and complies with user/customer needs	5	• Workflow design principles • Impact assessments • User surveys and evaluations
Intermediate	10.5 Assess new and emerging health information technologies (HIM, HI, HICT)	5	• Environmental scanning
Intermediate	10.6 Facilitate effective integration between clinical requirements and system functionality	4	• Information systems design: requirements engineering • Workflow analysis and optimization concepts • Needs assessments • Stakeholder communication • Clinical care concepts such as care plans, clinical pathways, and care coordination

Intermediate	10.7 Perform system testing, evaluation and continuous improvement	4	• Information systems design: testing • Methods for testing (conformance and compliance testing) • PDCA cycle • Project management • Planning and communication
Intermediate	10.8 Solve conflicting HIS requirements	6	• Information systems design: requirements engineering • Stakeholder involvement • Project management
11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Intermediate	11.1 Utilize complex applications in the management of health information	3	• Smart device applications (phones, tablets, personal monitoring devices) • Programming languages (C++, etc.) • Web-based applications (XML, HTML, Java)
Intermediate	11.2 Utilize wide-ranging specialist knowledge to create a process for the entire integration cycle, including the establishment of internal standards of practice	3	• Strategic plan and needs assessment • Hardware/software selection • System development life cycle
Intermediate	11.3 Ensure tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers	3	• Plan-Do-Check-Act • System development life cycle • System assessment criteria definitions
Intermediate	11.4 Verify compliance with testing procedures including a documented audit trail	4	• Testing protocols • Audit protocols • System development life cycle

Intermediate	11.5 Utilize specialist knowledge to influence solution construction providing advice and guidance	5	• System development life cycle • Solution strategies • Brainstorming, literature searches, peer consultation
Intermediate	11.6 Ensure interoperability and compatibility of the system components	6	• System development life cycle • Compatibility issues of operating system and applications • Compatibility of hardware and software
Intermediate	11.7 Manage complexity by developing standard procedures and architectures in support of cohesive product development	6	• System development life cycle
Intermediate	11.9 Optimize application development, maintenance, and performance by employing design patterns and by reusing proved solutions	5	• Workflow reengineering, workflow design techniques • System development life cycle
Intermediate	11.10 Verify test script accuracy	4	• Test planning • Test specifications • Test execution • Test results (recording) • Test completion (confirmation)
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Intermediate	12.1 Assess the integrity of the system by troubleshooting, maintenance, and upgrades including controlling the application of functional updates, software or hardware additions and maintenance activities	5	• Authentication, encryption, password management • Access logs • Needs assessment

Intermediate	12.3 Manage resource allocations, costs, and budget required for operational management and support of the health information system infrastructure in line with service level agreements	5	• Accounting • Cost/benefit analysis • Outsourcing, acquisition

13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Intermediate	13.4 Determine policies and procedures to monitor abuse or fraudulent trends	5	• Patient verification and identity management policies • Privacy, confidentiality, security principles, policies and procedures, country or region-specific laws • E-Discovery

Intermediate	13.5 Assess departmental and organisational survey readiness for accreditation, licensing and/or certification processes	5	• Review of policies, procedures, and operations • Audit and tracer activities • Managerial functions related to planning and organizing
14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Intermediate	15.3 Create and implement staff orientation and training programs	6	• Workforce education and training
Intermediate	15.6 Manage policies related to cultural awareness and diversity	5	• Diversity awareness training programs: age, race, sexual orientation, education, work experience, geographic location, disability • Regulations such as ADA, EEOC
Intermediate	15.7 Apply negotiation, mediation, advocacy, people management principles to resolve conflicts and achieve outcomes	3	• Employ resolution tactics • Team building/collaboration exercises • Establish an existence of respect and positivity within the workplace • Determining conflict management style (Leadership) • Scientific methods for conflict management o ERI (Emotions-reasons-intuition) approach • Conflict risk assessment
Intermediate	15.8 Analyze methods to empower, delegate and promote improvement within a healthcare team	4	• Employ appropriate disciplinary actions/measures • Proper documentation of conflicts for legal purposes • Trust, confidence and self-awareness (in order to master the skill of delegation) • Perform various QI tools to increase the level of quality within the workplace • Mentorship (mentor and mentee relationship) • Psychometric analysis/measurement • Benefits of healthy workplace conflict • Workplace needs assessment • Job design/redesign
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards
Intermediate	16.2 Manage information as a key strategic resource and mission tool	5	• Information governance • Mentorship (mentor and mentee relationship)
Intermediate	16.3 Manage stakeholder expectations and relationships to ensure the information governance framework is applicable and maintained	5	• Psychometric analysis/measurement
Intermediate	16.4 Analyze business processes and associated information requirements and provide the most appropriate information structure	5	• Information Systems: requirement analysis • HIT standards for HIM practices • Benefits of healthy workplace conflict
Intermediate	16.5 Promote high-quality care by promoting the safe, effective, and appropriate use of information	5	• Information governance • Patient safety principle • Data integrity • Quality improvement principles

17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)

Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*
Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Intermediate	19.3 Facilitate meetings	4	• Facilitating, networking Meetings with executive boards and other high level organisation groups, interdisciplinary committees
Intermediate	19.4 Take part in effective negotiating and use influencing skills	4	• Negotiation techniques
Intermediate	19.5 Discover personal leadership style using contemporary leadership theory and principles	3	• Professional development for self • Role of HIM in the C-Suite • Leadership practices and professional development
Intermediate	19.6 Create health information related policy	6	• HIM guidelines and policy creation • Information governance • HIT standards for HIM practices
Intermediate	19.7 Apply leadership principles and concepts in the healthcare environment	3	• Leadership styles & Management styles • Communication • Delegation
Intermediate	19.8 Apply emotional intelligence and relationship building techniques to achieve outcomes within a healthcare setting	3	• Self Awareness: Strengths& Weaknesses • Communication: written, verbal, virtual • Team building • Succession planning
Intermediate	19.9 Apply strategic thinking principles to achieve outcomes	3	• Benchmarking • Quality management programs • Objectives/action plans
Intermediate	19.10 Facilitate visions and goals and integrate them with processes and outcomes	4	• Environmental scan • Strategic planning
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Intermediate	20.1 Apply project management techniques to ensure efficient workflow and appropriate outcomes	3	• Gantt Charts • Benchmarking • Risk Analysis • Team Structure • Software applications
Intermediate	20.2 Create complex documents of the project	6	• Project charter • Work breakdown structure • Risk and issue logs, mitigation plan • Final project report • Communication plan • Stakeholder analysis management plan • Software applications
Intermediate	20.3 Facilitate project management by integrating work efforts	4	• Issue tracking, facilitation techniques, opportunity costs • Project management/Project milestones • Interactivity dependencies and timing constraints • Resources (time, people, money) • Change requests from stakeholders
Intermediate	20.4 Build effective teams	6	• Interdisciplinary workgroups and project teams • Communication plans • Team charter
21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Intermediate	21.1 Evaluate specialist knowledge to inform the purchasing process	5	• Purchasing process policies • Purchasing process • User/organisational needs • Vendor selection process (product selection) • Purchasing budgets • RFPs (solicit vendor bids) • Project management • Purchasing contracts
Intermediate	21.2 Evaluate performance, cost, timeliness and quality information to select suppliers, products, and services	5	• Purchasing • Vendor selection process (product selection) • Decision matrix (vendor) • RFPs (solicit vendor bids) • Purchasing budgets
Intermediate	21.3 Evaluate vendor contracts and service level agreements	5	• System acquisition and evaluation • Contract management • Vendor selection process (product selection) • Contracts evaluation/analysis/reviews
Intermediate	21.4 Take part in negotiations related to contracts and/or service level agreements	4	• Negotiation techniques • Risk and revenue assessment • Effective communication strategies
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Intermediate	22.1 Examine quality and process indicators and propose remedial action	4	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • CDI concurrent, retrospective, post-bill review • CDI metrics and reporting process • Joint Commission*, DNV (ISO 9001) • Structure, process, outcome framework • Benchmarking • Outcomes measurement • Quality management models
Intermediate	22.3 Take part in creating review indicators, reports, data aggregation protocols, criteria sets and score measures in line with clinical decision making, decision support and evidence based requirements	4	• Key performance indicators (clinical; business; financial; organisational, etc.) • Data sets • Nature of the data • Derived data • Interfaced data
Intermediate	22.4 Analyze systems for quality maintenance and consistent outcomes within the healthcare setting	4	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Data collected and datasets maintained are derived from and consistent with identified internal and external benchmarks; accreditation/certification/licensure guidelines; and published best

Intermediate	22.5 Manage health information to maintain quality improvement and patient safety, accreditation evidence and benchmarking	5	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Data collected and datasets maintained are derived from and consistent with identified internal and external benchmarks; accreditation/certification/licensure guidelines; and published best practices
Intermediate	22.6 Analyze data and act accordingly to maintain quality and patient safety	4	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Multi-level database queries and report generation • Measures, metrics and reports are aligned with and consistent with identified quality and patient safety goals
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees
Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
Intermediate	23.1 Apply principles of research and clinical literature evaluation	3	• Outcomes related research • Research articles/literature
Intermediate	23.2 Identify processes and policies for research review boards (e.g., Institutional Review Board (IRB))	3	• Characteristics of research: Processes o Design o Method o Pilot

Intermediate	23.3 Take part in the development of study design (e.g., an epidemiological study)	6	• Research designs: Qualitative, Quantitative, Mixed Methods
Intermediate	23.4 Apply research presentation skills	3	• Research data presentation
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Intermediate	24.1 Apply principles of risk management to mitigate identified risks	3	• Information governance: protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications • Fraud detection • Education and training principles • Privacy and security laws and regulations, adult education strategies, training methods • Risk identification • Problem analysis • Compliance concepts • Risk mitigation • Incident reporting systems
Intermediate	24.2 Promote the organisation's risk analysis outcomes and risk management processes	3	• Information governance: retention, disposition, and protection • HIT standards for HIM practices • Health information archival and retrieval systems • Data security protection methods • Authentication, encryption, decryption, firewalls • Mitigation strategies • Policies and procedures • Culture of compliance

Intermediate	24.3 Apply decision making and risk management methodologies to healthcare specific leadership challenges	3	• Risk analysis • Information gathering • Cause and Effect Analysis
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)

Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis
Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Intermediate	25.2 Identify the functions and relationships between healthcare classification systems and terminologies	3	• Healthcare classification systems and taxonomies • ICD, CPT, SNOMED CT, DSM, RxNorm
Intermediate	25.3 Map terminologies, vocabularies, and classification systems	3	• Standard clinical terminology to a HIPAA code set maps • LOINC to CPT or SNOMED CT to ICD • Code set to code set maps • One revision of ICD to another
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)
Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems

Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback

Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Intermediate	26.1 Develop a strategic plan	3	• Strategic planning concepts • Organisational mission, vision, and goals • SWOT analysis • Key performance indicators
Intermediate	26.2 Implement a strategic plan	3	• Strategic planning approaches • Communication planning • Identifying strategic goals and objectives • Measurement of key performance indicators
Intermediate	26.3 Utilize enterprise-wide information assets in support of organisational strategies and objectives	3	• Information governance principles • Data and information inventory • Knowledge management concepts • HIT systems interoperability (semantic, technical, and functional) • HIT standards
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan

Intermediate	27.1 Evaluate initial and on-going training programs	5	• Information Systems • Clinical Documentation Improvement • Compliance • Prospective Payment System • CDR • Health information Systems (EHR, LMIS, pharmacy, and other) • Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Intermediate	27.2 Develop training programs and deliver content appropriately to stakeholders	5	• Learning Management Systems • Virtual laboratories • Instructional Design Software tools • Teaching techniques and strategies • Learner competencies • Training records maintenance • Measure of effectiveness
Intermediate	27.3 Take part in communication, training and implementation methods related to health information systems	4	• Assist in Designing, planning and conducting training initiatives • Identify topics important/relevant to deliver/present • Design methods of delivery pertaining selected topics • Create tools and resources such as syllabus, lectures', outlines, schedules, assignments, readings, handouts, evaluations, etc.
28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Intermediate	28.1 Analyze workflow processes and responsibilities to meet organisational needs	4	• Guide/purpose for analysis • User needs
Intermediate	28.2 Construct performance management measures/charts	6	• Statistical process control • Visual representations via charts/graphs and other tools

Intermediate	28.3 Demonstrate workflow concepts	3	• Stakeholder needs assessment • Benchmarking • Employee feedback/input
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Intermediate	29.1 Collaborate with healthcare organisation structures to achieve organisational goals	4	• Approaches to collaboration, communication, and achieving buy-in • Leadership concepts • Leadership styles
Intermediate	29.2 Demonstrate how various healthcare funding models impact data collection and use	3	• Healthcare funding models* • Quality indicator collection and reporting • Government mandated health data collection and reporting
Intermediate	29.3 Evaluate information governance principles to support the management of individual patient, community, national and global health information	5	• Research and statistics • Evidenced-based research • Epidemiology concepts
Intermediate	29.4 Apply public health surveillance and response to public health issues	3	• Epidemiology concepts • Community engagement and outreach

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Advanced	1.1 Apply data analytics tools and methods for trending and reporting	3	• Data extraction/mining • Trend analysis • Data analytics • Data modelling • Data analytics tools • Healthcare data trends • Reporting healthcare data

Advanced	1.2 Design data sources for intelligence extraction	6	• Data sources for statistical testing and applications o EHRs o Clinical data repositories o Patient/population registries o Financial o Patient experience o Costing o Supply chain • Relational databases • Metadata repository • Enterprise data warehouse • Data sources • Extracting and synthesizing from data sources
Advanced	1.3 Formulate business intelligence through data analytics	6	• Analytics focus; retrospective reporting, predictive analytics, suggestive analytics, wellness management, physical and behavioural functional health, and personalized care • Hypothesis generation • Forecast modelling • Automated internal and external reporting • Key performance indicators
Advanced	1.4 Assess information using data visualization techniques	5	• Data presentation • Visual representation: audience/consumer appropriate • Graphics at-a-glance • Analytics available real-time, at the point of care o Entire analytics range from enterprise-level to patient-level o Patient-centred care based upon individual's genetic data
Advanced	1.5 Interpret inferential statistics for business, clinical, and healthcare reporting, research and assessing outcomes	5	• Outcomes research • Evidence-based practice • Inferential statistics • Descriptive statistics • Population-based analytics • T-tests, ANOVA, regression analysis, reliability, validity
Advanced	1.6 Apply statistical business models to leverage enterprise wide information assets	3	• Suggestive analytics • Predictive analytics • Prescriptive statistics • Permanent multidisciplinary collaboration across clinical, administrative and staff business units • Statistical Business model

Advanced	1.7 Apply biostatistics and demographic analysis skills to analyze health data	2	• Small and large scale databases • SQL • SAS • SPSS
Advanced	1.8 Create strategies to utilize health information systems to support clinical decision making and business management using an understanding of biostatistics, epidemiology, information governance frameworks and information systems interoperability	6	• Stakeholder needs assessment (clinical, organisational, other) • Conversant with all stakeholder groups (clinical, executive, business, staff) • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Available data and Methods for data integration and semantic
Advanced	1.9 Provide strategic advice on data utilization, analysis and integration according to best practice standards	6	• Continuous improvement of patient care processes and outcomes • Actionable information; aligned with strategic goals • Favourable trends in many and varied quality, patient safety, service, patient satisfaction and related metrics
2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who

Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Advanced	2.1 Identify stakeholders, their roles and relationships	3	• Champion(s)/supporter(s) • Clinical and administrative support • Cross functional relationships • Internal stakeholders • External stakeholders • Change agents • Change management team
Advanced	2.2 Create the change management plan	6	• Change path • Workflow analysis • Quality improvement process • Executive level support • Survey stakeholders • Team Building Techniques • Learning organisation culture
Advanced	2.3 Implement change management plan	3	• Communication • Change resistance • Deployment of plan • Training and support • Milestones • Stakeholder resistance management • Lewin's three-step model • Kotter's 8 step plan for implementing change
Advanced	2.4 Evaluate the change management plan	5	• User feedback • Customer feedback • Patient feedback • Adjustment(s) • Quality improvement process • Stakeholder performance and acceptance of change • Culture of innovation • Learning organisation adapt and change methods
Advanced	2.5 Manage IT led business change	5	• Human resources • Financial considerations • IT system selection • Project management • Team management • Communication development between departments

Advanced	2.6 Influence organisational and professional behaviour change	5	• Leadership theory • Analytics • Leadership theory • Organisational development theories • Change management theories
Advanced	2.7 Design change management processes	6	• Stages of the Change Curve • Principles of change management o Lead with the culture o Start at the top o Involve every layer o Make the case for change together o Act into new thinking o Engage o Lead outside the lines o Leverage formal/informal solutions • Assess and adapt

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems

Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
Advanced	3.1 Evaluate electronic applications/systems for clinical classification, coding and related content standardization	5	• Computer assisted coding tools • Data Standards (Vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information Content Standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic Interoperability: ISO TC215 Semantic Content Standards • Regulatory impact analysis • Applications/systems • Workflow processes • Project management
Advanced	3.2 Manage applications/systems for clinical classification, coding, and related content standardization	5	• Applications/systems • HIT standards and systems interoperability (semantic, technical, and functional) • Computer assisted coding tools • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Workflow processes
Advanced	3.3 Implement applications/systems for clinical classification, coding, and related content standardization	3	• HIT standards and systems interoperability (semantic, technical, and functional) • Computer assisted coding tools • Tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Project management
Advanced	3.4 Recommend classification systems and content standards to suit needs of healthcare providers and organisations	5	• Data Standards (Vocabulary, terminology and healthcare classification systems): ICD, SNOMED CT, LOINC, and other • Information Content Standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic Interoperability: ISO TC215 Semantic Content Standards • Healthcare laws and regulations • Payment systems • Risk-adjustment systems

4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations
5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement

Advanced	5.1 Model the use of various data sources for managing health information	3	• Data sources primary and secondary • UHDDS, HEDIS, OASIS* • Specialized data collection systems • Data mapping, data warehousing • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Methods for data integration and semantic interoperability including data mining (NLP), content generation standards (SQL, IHE RFD,
Advanced	5.2 Validate the quality of various data sources according to an appropriate data quality framework	3	• Access control mechanisms • Input validation • Defence in depth theory of validation • Whitelisting/blacklisting • HIT standards for systems interoperability
Advanced	5.4 Integrate data from various data sources	6	• Data sources primary and secondary • UHDDS, HEDIS, OASIS* • Specialized data collection systems • Data mapping, data warehousing • HIT standards and systems interoperability • Information governance for data availability, integrity and protection
Advanced	5.5 Evaluate data integration requirements	5	• Interoperability • HIEs • Legacy systems • Standardization of data dictionaries
Advanced	5.6 Propose data interoperability and sharing policies, structures, methods	6	• Technical standards • Services considerations • Contracts and negotiation • Hardware and application compatibility

Advanced	5.7 Recommend policies and HIT standards to support system interoperability and information sharing	5	• NIEM (national information exchange model) • HL7 • ASTM • HEDIS • OASIS • UHDDS • Meaningful Use • RxNorm • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Methods for data integration and semantic interoperability including data mining (NLP), content generation standards (SQL, IHE RFD,
Advanced	5.8 Develop data management policies	6	• Business analytics management • Clinical analytics management • Medical decision-making • Healthcare research analytics management • Information governance for information retention • Information systems interoperability (semantic, technical and functional) • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR)

Advanced	5.9 Design patient-centred health information systems	6	• Document information system requirements using workflow tools: o Use cases o Workflow and information flow o Functional and non-functional requirements o System architecture and software and hardware requirements • Identify business actors (people) and technical actors (systems)
Advanced	5.11 Develop and/or recommend improvements policies, processes, methodologies and implementation procedures to ensure they are aligned with contemporary and best practice clinical and technological advancements	6	• Clinical Documentation improvement • Patient generated data • Mobile Health data integration • Information governance • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability
Advanced	5.12 Develop and/or recommend effective communication strategies, training and implementation methods related to health information systems	6	• Requirements engineering • Communication feedback loop • Professional development • Effective measurement o Surveys o Focus groups o Blocks/Barriers
Advanced	5.13 Propose, implement and manage effective record and system disaster recovery and management protocols and procedures	6	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
Advanced	5.14 Verify accuracy, completeness, and relevance of data and data sources for patient care, management, billing reports, registries and/or databases	4	• Clinical documentation improvement • Population health management • Quality outcomes • Information governance for data integrity • HIT standards for semantic Interoperability (ISO TC215)
Advanced	5.15 Create information from secondary data sources	6	• Information governance for data integrity • HIT standards for semantic Interoperability (ISO TC215) Specific examples of secondary uses of clinical data may include: • Trend identification • Population health management • Quality initiatives • Resource management

6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Advanced	6.1 Develop performance improvement programs	6	• Quality assessment and improvement • Information integrity policies and standards • Performance improvement model for o Collecting data o Tracking data o Analyzing and interpreting data • Decision support
7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations. * represents country-specific examples			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*
Advanced	7.1 Create an ethical business culture	6	• Social consciousness • Ethical decision making • Professional and personal ethics • Organisational ethics • Ethics and compliance programs and committees
Advanced	7.2 Design ethical research models	6	• Evidence based practice • Research integrity • IRB • Qualitative and quantitative research methods • Research ethics and integrity • CITI • Patient rights and advocacy
Advanced	7.3 Create programs and policies that support a culture of diversity	6	• Diversity awareness training programs: age, race, sexual orientation, education, work experience, geographic location, religion • Cultural competence • International, National, and Region-specific laws or regulations pertaining to disability in the workplace and non-discrimination in employment and personnel management
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
Advanced	8.2 Perform break-even calculations	3	• Break-even analysis • Expenses and revenue
Advanced	8.3 Develop budget	6	• Budget types and principles • Cost-benefit analysis • Capital expenses • Operating expenses • Line officer accountability and relationship to management
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Advanced	9.1 Mitigate access and report and monitor risks	5	• Information governance: protection • Case risk analysis, mitigation ,and management • Breach analysis and notification requirements • Gap analysis of current policies and procedures

Advanced	9.2 Comply with health information exchange policies and standards and maintain the balance between transparency and confidentiality	6	• Information governance: availability, protection, transparency • HIT standards for HIM practices • Audit policies and procedures • Staff education and training
Advanced	9.4 Manage breaches of policies/procedures and protocols effectively	5	• Information governance: protection • Case risk analysis, mitigation, and management • Breach analysis and notification requirements
Advanced	9.5 Develop and/or recommend record and system disaster recovery and management protocols and procedures	6	• Contingency planning • Downtime policies, procedures, and processes • Information governance principles
10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Advanced	10.1 Create health information systems to ensure safety and compliance	6	• International, National and Regional regulatory, legal, accreditation and certification requirements
Advanced	10.2 Develop the organisational strategy for health information management systems compliant with business needs taking into account the current technology platform, obsolescent equipment, and latest technological innovations	6	• Database design and administration • Data warehousing • Population databases • Secondary and derived databases • Legal health record • Designated data set • Programming languages • SQL • Java • Retention/archival strategies and policies
Advanced	10.3 Lead the support of the customers (internal or external) business needs and strategy to offer possible solutions and suppliers	6	• Professional networking
Advanced	10.4 Plan strategic decisions relevant to future health ICT solutions for customer-oriented processes, new business products and services	6	• Return on investment • Cost-benefit analysis • Regulatory requirements • Quality improvement • Patient safety • Risk management
Advanced	10.5 Evaluate the status quo and provide strategic leadership for the introduction of revolutionary concepts	5	• Environmental scanning • Strategic planning and management • Policy management

Advanced	10.6 Develop information systems in line with clinical decision making, decision support and evidenced based requirements	6	• Comprehensive environmental scans • System development lifecycle • Integrated support systems
Advanced	10.7 Specify HIS requirements	6	• Information systems design: requirements engineering • Constructivist model
11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Advanced	11.2 Create a process for the integration cycle	5	• Networking principles, methods, and designs • Application interfaces • Database conversions
Advanced	11.3 Specify integration resources	6	• Secondary and derived databases • Capital/operating budget • Acquisition/procurement procedures (RFI, RFP, etc.)

Advanced	11.4 Create a testing procedure	6	• End to End testing • Application testing • Alpha/beta testing • Functional testing o Unit testing o Integration testing o System testing o Acceptance testing • Non-Functional testing o Performance testing o Security testing o Usability testing o Compatibility testing
Advanced	11.5 Ensure system functionality meets clinical requirements	5	• Test cases • Use cases • End to end testing (stakeholder criteria met?)
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Advanced	12.1 Lead problem management process ensuring trained human resources, tools, and diagnostic equipment are available to meet incidents	6	• Disaster preparedness • Contingency planning • Communication planning
Advanced	12.3 Construct escalation processes to ensure that appropriate resources can be applied to each incident	6	• Incident reporting procedures • Communication planning • Policy and procedure creation • Contingency planning

13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples	

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Advanced	13.1 Integrate data analytics for regulatory compliance measures	6	• Data mining • Statistics • Trend analysis presentation and communication
Advanced	13.2 Formulate organisational compliance programs and policies	6	• Compliance strategies and policies • Risk management/Patient Safety • Risk analysis • Mitigation

Advanced	13.3 Analyze standards and regulations in healthcare and how they drive and/or constrain operations	4	• Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • HIT standards for HIM practices • HIPAA, ARRA, HITECH, Meaningful Use, ACOs, ACA, GINA, Medicare/Medicaid* • E-discovery • Stark • Red Flag • International law • National, regional, and/or country or region specific laws • Public policy and lobbying efforts • Advocacy
Advanced	13.6 Develop forensic models for surveillance and improvement measures	6	• Trend analysis presentation and communication

14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards

Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
Advanced	14.2 Apply biostatistics and demographic analysis skills in health information management	3	• Applied statistics • Descriptive, predictive, and prescriptive analytics • Epidemiology concepts • Morbidity and mortality concepts
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Advanced	15.1 Leverage human capital	5	• Leadership skills • Mentoring • Partnerships/alliances • Networking • Professional development in self and others
Advanced	15.2 Analyze information quickly	4	• Data/Information analysis • Interpretation • Data/Information abstracting • Critical thinking
Advanced	15.3 Ensure the skills needed to contribute to the department's success, and that staff are motivated to grow and learn	5	• Performance evaluation/annual reviews • Employee goal setting • Professional development • Continuing education • Motivation • Mentorship/apprenticeship
Advanced	15.4 Ensure that the relationship between the department and staff is managed within a clear and appropriate framework	5	• Cross departmental collaboration • Teamwork • Effective communication • Team building

Advanced	15.6 Develop policies that take into consideration issues related to culture and diversity	6	• Cultural/Diversity awareness training programs: age, race, sexual orientation, education, work experience, geographic location, disability • Regulations such as ADA, EEOC (or similar country specific regulations)
Advanced	15.7 Solve conflict using mediation and conflict resolution techniques	6	• Understanding the types of workplace conflicts o Personality o Leadership style o Gender, cultural, and religious differences etc. o Internal (self-confidence, validation, past experiences, appearances, self-esteem etc.) • Change management • Conflict risk assessment • Interpersonal analysis • Mediator (neutral party) • Personality/characteristics measure • Identify appropriate disciplinary actions/measures • QI tools (root cause analysis aka fishbone diagram) to identify major source of conflict' • Negotiation techniques to resolve conflict • Employee assistance program (EAP) counselling; referral's for clinical assistance
Advanced	15.8 Master the skills of empowerment, delegation and promotion of continuous quality improvement within a healthcare team	6	• Employ appropriate disciplinary actions/measures • Proper documentation of conflicts for legal purposes • Trust, confidence and self-awareness (in order to master the skill of delegation) • Perform various QI tools to increase the level of quality within the workplace • Mentorship (mentor and mentee relationship) • Psychometric analysis/measurement • Benefits of healthy workplace conflict
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics

Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards
Advanced	16.1 Apply enterprise-wide strategic planning and design information management tools, resources for operational data flow and mission-critical business decisions	6	• Information governance • HIT standards for HIM practices • Requirements engineering
Advanced	16.2 Integrate business intelligence using appropriate analytic tools and methods	6	• Big data • Semantic interoperability • Data mining • Information governance • Cyber security methods and theory
Advanced	16.3 Develop enterprise-wide information business plans, strategic forecasts, and operational plans	6	• Quality of care promotion • Patient safety • Decision support • Information governance principles
Advanced	16.4 Govern information assets within the governance framework to ensure information is available to meet the organisation's objectives	6	• Collaboration techniques • Accountability • Information governance principles • Inventory of data sources
Advanced	16.5 Lead for IT governance strategies by communicating, propagating and controlling relevant processes across the entire IT infrastructure	6	• Marketing strategies • Strategic positioning • Negotiation skills • Political navigation skills • Cross departmental collaboration • Effective and timely communication • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices

Advanced	16.6 Construct an IT governance strategy incorporating it into an organisation's corporate governance strategy	6	• Mission, vision and values • Project management • Leadership • Organisation Long-term & short-term IT goals (strategy) • User/Organisational Needs (IT) • Organisational/Support • Organisational Transparency (communication) • Benchmarking • Analysis and integration • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
Advanced	16.7 Ensure the IT governance strategy takes into account new significant events arising from legal, economic, political, business or environmental issues	6	• Leadership • Internal/External forecasting (legal, economic, political, and environmental) • External networking • Board of Directors influence/insight
17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*

Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates
Advanced	17.1 Design a privacy and security infrastructure	6	• International, National, and Regional privacy and security laws and regulations • Information governance: protection • HIT standards for HIM practices • Risk assessment, evaluation, and management
Advanced	17.2 Create regulatory policies based on health laws	5	• Information governance: protection and compliance • Compliance monitoring • Breach consequences • Internal quality assessment
Advanced	17.3 Integrate privacy and security standards in the organisation	6	• International, National and Regional laws and standards as appropriate for country o HIPAA regulation* o FDA regulation* o Stark Laws • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
Advanced	17.4 Lead the implementation of risk assessment, contingency planning, and data recovery procedures	6	• Information governance: availability, retention, disposition, integrity, protection, compliance, audit, transparency • HIT standards for HIM practices • Case risk analysis, mitigation, and management • Breach analysis and notification requirements

Advanced	17.5 Oversee the security and privacy implications of mobile health technologies	5	• Information governance: protection • PHI/breaches • Identity theft • Patient portals • Organisational policy • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
Advanced	17.6 Develop educational programs for employees in privacy, security, and confidentiality	6	• Information governance: protection, compliance, audit • In-service programs for employees • Ethics training • Code of Ethics • Organisational policy • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee

Advanced	18.1 Integrate expertise external standards and best practices	6	• Information governance: compliance and protection • HIT standards for HIM practices • Evidence-based policy and practice evaluations
Advanced	18.2 Provide strategic leadership to embed information security into the culture of the organisation	6	• Information governance: compliance and protection • HIT standards for HIM practices • Organisational culture considerations • Approaches to achieving buy-in • Collaboration and effective uses of committees
Advanced	18.3 Lead organisational initiatives related to integrity, confidentiality and availability of data stored on information systems and comply with all legal requirements	6	• Staff training and development • Leadership concepts • Information governance principles • HIT standards for HIM practices

19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Advanced	19.2 Build sustainable strategic business alliances, networks, and partnerships	6	• Negotiation, mediation, arbitration skills • Communication skills • Critical thinking skills • Social and emotional intelligence skills • Creative thinking skills • Entrepreneurship

Advanced	19.3 Analyse and apply leadership principles and concepts in the healthcare environment	4	• Leadership styles & Management styles • Behaviour modelling
Advanced	19.4 Evaluate emotional intelligence and relationship building techniques to advocate high quality outcomes within a healthcare setting	5	• Organizational culture and climate • Change management • Motivation
Advanced	19.5 Determine innovative and creative strategies for healthcare delivery	5	• 80/20 system • Evidence based practice • Insight/foresight
Advanced	19.6 Develop visions and goals that facilitate continuous quality improvement within the healthcare setting	6	• Forecasting • Strategic planning • Information governance • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Evaluation of outcomes • Quality Management Programs
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Advanced	20.1 Assess project management tools	5	• Software applications • Data demonstration, dashboards • Gantt charts, cause and effect diagram

Advanced	20.2 Oversee complete project plan	5	• Project strategy • Project scope • Resource management (people, cost, time) • Workflow
Advanced	20.3 Develop collaborative alliances and partnerships to effectively manage complex projects	6	• Professional networking • PMP Certification • Team building • Stakeholder input • Modification management
Advanced	20.4 Evaluate applied research tools and methods to integrate best practices in project planning and management	5	• Contingency planning • Project management principles
21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Advanced	21.1 Lead application of the organisation's procurement policies and enhancements	6	• System acquisition and evaluation • RFI, RFP • Policy and procedure development • Development of procurement manual • Procurement measures/auditing tool
Advanced	21.2 Develop negotiation skills related to contracts and/or service level agreement	6	• Contract management process • Negotiation strategies • Effective communication and listening • Awareness of Business/HIM Ethics • Bargaining techniques • Financial analysis/feasibility
Advanced	21.3 Design comparative research models for vendor solutions	6	• Benchmarking • Environmental scanning • Exploration of comparative research models • Decision matrix (vendor selection)

22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples	

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Advanced	22.1 Assess the degree to which quality requirements have been met	5	• Information governance: availability, integrity, retention and protection • HIT standards for HIM practices including CDI practice standards • Regulatory impact analysis • Continuous performance • Improvement initiative
Advanced	22.2 Lead quality policy implementation	6	• Information governance: availability, integrity, retention and protection • Infection prevention and control • Continuous quality improvement (CQI) • Patient safety • Organisational culture • Project management • Implementation • Policy and procedure development

Advanced	22.3 Lead setting quality standards across cross functional units	6	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical. and functional) • HIT standards for systems interoperability • Outcomes measurement • Population health management • Predictive analytics • Root cause analysis • Organisational culture • Cultural competency/diversity • Assess/benchmark • Communication • Train/education • Monitor, evaluate, recommend
Advanced	22.4 Utilize external quality standards and best practices	3	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices including CDI practice standards • Benchmarking • Evidence-based care • Triple aim • Implementation/integration • Interpretation and communication
Advanced	22.5 Lead organisational strategy to embed quality (i.e., metrics and continuous improvement) into the culture of the organisation	6	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Patient safety • PDSA models • Lean/Six Sigma models • Statistical process control techniques

Advanced	22.6 Evaluate and recommend improvements to systems for quality maintenance and consistent outcomes within the healthcare setting	5	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Patient registration, admission, discharge, transfer • Patient management • Lab, radiology, pharmacy • Clinical decision support • Computerized provider order entry • Encoder • Patient financial services • Budget/general ledger • Cost accounting
Advanced	22.7 Oversee organisation accreditation status and demonstrate continuous improvement in a health service using internal and external data for benchmarking	5	• Medical staff committees • Medical staff credentialing • Administrative committees • Plan, Do, Check/Study, Act • Favourable trends over time • Data-driven • Evidence-based • Across continuum of care • Longitudinal (over patients' lifetime)
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees

Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
Advanced	23.1 Analyze principles of research and clinical literature evaluation	4	• Research design/methods • Quantitative, qualitative, evaluative, mixed, outcomes • Knowledge-based research techniques • Medline, CMS libraries, AHRQ, and other websites • Epidemiology • Nomenclatures and vocabularies
Advanced	23.2 Create an evidence based practice body of knowledge	6	• Research/Grant proposals • Study designs (qualitative and quantitative) • Literature search and evaluation • Research ethics and integrity • Social consciousness • Population databases • AHRQ • Public health • Nomenclatures and vocabularies
Advanced	23.3 Conduct research in health information	6	• Health related research/investigations
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Advanced	24.2 Evaluate evidence-based decision making and risk management methodologies to promote high quality leadership outcomes	5	• OODA Loop • PDCA
Advanced	24.3 Manage and mitigate risks prior to incidents occurring	5	• Risk aversion • Risk valuation

25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)

Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis
Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)
Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems

Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.1 Apply knowledge of interoperability and HIT standards to lead deployment of standards-based interoperable HIT solutions	3	HIT systems interoperability (semantic, technical, and functional) • HIT standards • HIT standardization phase: deployment
Advanced	25.2 Interpret terminologies, vocabularies and classification systems	5	• SNOMED CT • LOINC • ICD • UMLS • Metadata • Primary and secondary uses
Advanced	25.3 Construct examples of mapping of clinical vocabularies and terminologies to appropriate classification systems	6	• ICD-10-CM/PCS to ICD-11-CM/PCS • ICD-11-CM/PCS to SNOMED CT • Mapping between disease classifications
Advanced	25.4 Apply knowledge of interoperability and HIT standards to participate in standards development activities	3	• Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP, and other • HIT systems interoperability (semantic, technical and functional) • HIT standards • HIT standardization phases: needs identification, standards development, standards selection and harmonization, standards testing, standards-based product certification and deployment

Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback
Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.1 Evaluate a strategic plan	5	• Accreditation/certification standards • Benchmarking
Advanced	26.2 Evaluate healthcare policy-making's direct and indirect impact on national and global healthcare delivery systems	5	• Policy making body of knowledge • International, National, and Regional laws and standards • HIT systems interoperability (semantic, technical, and functional) • HIT standards

Advanced	26.3 Design enterprise-wide strategic planning research models and methods	6	• Performance improvement models • Business intelligence • Evidence based practice • Epidemiological research methods • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.4 Propose innovative, healthcare policies for national or global healthcare delivery system	6	• International, National, and Regional initiatives and guidelines o Healthy People 2020* o WHO o IOM reports* o CDC* • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.5 Lead the construction and implement long-term innovative information governance and Information system solutions	6	• Information governance • Organisational strategy for operations • Internal/external stakeholders • Collaboration • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.6 Promote consensus and commitment of the management team of the enterprise	3	• Professional networking • Marketing strategies • Strategic positioning • Negotiation skills • Political navigation skills • Communication plan
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan
Advanced	27.1 Model the training and professional development program	6	• Professional development • Needs assessment • Flow chart/work charts (tools/guides) • Education plan; instructional models and theories
Advanced	27.2 Manage training and education schedules to meet market needs	5	• Communication • Planning/organisation • Time management • Needs assessment • External market scan/benchmark
Advanced	27.3 Design, evaluate and manage training programs for the appropriate management of health information	6	• Mock In-service education/training • User Needs • Measuring effectiveness • Survey/Questionnaires
28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Advanced	28.1 Analyze workflow design and process	3	• Definitions/standards • Guide/purpose for analysis • User needs • Use cases
Advanced	28.2 Design and implement process improvement	6	• PDSA • Six Sigma • DMAIC • Statistical Process Control

Advanced	28.3 Evaluate process improvement outcomes	5	• Benchmarking • Employee feedback/input • Analysis • Monitoring • Evaluations • Tools of measurement
Advanced	28.4 Create metrics for benchmarking and reporting	6	• Benchmarking process • Cost benefits analysis • Target measure establishment and evaluation • Process mapping tools • Analytical tools
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Advanced	29.1 Leverage local and international (where relevant) healthcare organisations to ensure best practice performance within the enterprise	5	• Evidence-based practices • Data analytics • Benchmarking processes implementation • Stakeholder identification

Advanced	29.2 Analyze various healthcare funding models to support healthcare operations	4	• Healthcare funding models including* o Public and social payers o Private insurance o Self-pay o Charity care
Advanced	29.3 Design and implement health information management system to support public health needs	6	• Jurisdictional and national laws, regulations, and policies to protect the health of the public • Public health reporting • Needs assessment techniques • Stakeholder identification
Advanced	29.4 Assess population based community health information system	5	• Research information systems • Information governance principles for research • Comparative-effectiveness research principles • Epidemiological research studies development • Needs assessments techniques
Advanced	29.5 Implement health information system applications to streamline the process of public healthcare service delivery	5	• Health information systems • Health information exchange • Information governance • Information systems interoperability (semantic, technical; and functional) • HIT standards • Mobile applications • Consumer-facing health information technologies such as patient portals
Advanced	29.6 Apply public health surveillance and response using various information systems and analytical tools including GIS	3	• Jurisdictional and national laws, regulations, and policies to protect the health of the public • Public health reporting • Information governance • Information systems interoperability (semantic, technical; and functional) • HIT standards • Data analytics • Visualization tools

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Entry	1.2 Apply data extraction methodologies to report/content generation	3	• Primary and secondary data sources o EHRs o Clinical and public health data repositories o Patient/population registries o Financial databases o Patient experience data o Cost data o Purchasing/supply chain data • Relational databases • Metadata repository • Data mining (NLP) • Report/content generation tools and principles (SQL, IHE RFD, SDC)

2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who
Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Entry	2.1 Describe the impact of change management on processes, people, and systems	2	• Communication and network technologies • Theories of change including positive forces (e.g., champion of change) and negative (e.g., resistance to change) • Theories of organisational development and systems management • Workflow analysis and value of individual worker in the process • Communication and network technologies to monitor the progress of change and to communicate change activities (e.g., Gantt chart) • Systems that are impacting change throughout government systems, and healthcare systems. EHR, PHR, HIEs, portals, public health, standards, telehealth
Entry	2.2 Describe change management techniques and processes	2	• Strategy for change preparation • Plans for change implementation • Resistance to change • Impact of change on people and organisation • Celebrate milestone success(es)

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking

4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making.

* represents U.S.-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations

5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Entry	5.6 Explain record and system disaster recovery and management protocols and procedures	3	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems
6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Entry	6.1 Apply policies and procedures to ensure the accuracy and integrity of health data both internal and external to the health system	3	• Data and data sources for patient care and population health including registering • Care coordination, administrative reporting, population health reporting • Bylaws: Medical staff bylaws, Hospital bylaws*
7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures

Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*
Entry	7.1 Comply with ethical standards of practice	5	• Role of ethics in history and evolution of HIM practice • Professional and practice-related ethical issues • AHIMA Code of Ethics • Ethical Decision-Making Matrix/Model: steps in the ethical decision-making process • Patient rights • Patient privacy • Autonomy • Professional values and obligations to o Patient o Healthcare team o Employer o Public o Self o Peers o Professional association • Cultural diversity • Human dignity • AHIMA Code of Ethics • World Health Organisation Global Health Ethics (see WHO listing
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems

9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Entry	9.2 Explain current trends and future challenges related to the Health Information Exchange (HIE)	2	• Exchange/sharing of health information • Employer to health provider, health provider to health provider, health provider to employer, facility to facility • HIE • Data quality

Entry	9.3 Apply appropriate standards to achieve interoperability of health information systems	3	• Data interchange standards • X2, HL-7 • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Information governance: protection including • External enforcement to access and disclosure • Internal audits to assess enforcement and accountability • Manage processes • Use and disclosure with patient authorization and without patient authorization • Advocate for patient's rights and access • Incident reports • Informed consent • Authorizations • Sensitive information
Entry	9.4 Explain methods to facilitate effective integration between clinical requirements and system functionality	2	• Workflow analysis and optimization concepts
Entry	9.5 Explain system testing, evaluation and continuous improvement	2	• Test environment concepts • PDCA cycle
Entry	9.6 Summarize the problem and challenges to be addressed through HIS requirements engineering	2	• People vs. technological challenges • Emerging requirements engineering theory

10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Entry	10.3 Organise the overall planning of the design of an application	3	• Information Systems and applications • User interface design • Data relationships and interoperability • Database management • Project management • Systems development lifecycle • Strategic planning process • System integration • Project management • Team management

11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data

Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Entry	11.1 Develop simple applications or components of applications	6	• Smart device applications (phones, tablets) • C++ • Web-based applications (HTML, Java)
Entry	11.2 Perform system testing under guidance	3	• Alpha and Beta testing • Timing and sequencing of testing • End-user testing
Entry	11.3 Apply standards to define document structure and documentation requirements	6	• HIT standards for semantic interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Interoperability standards (ISO TC215) • HIT standards for HIM practices • Standards development organisations (HL7, ISO, ANSI) • Standards adoption or change process • Proposal, vetting, voting procedure
Entry	11.4 Demonstrate the ability to systematically use the established tools to identify the compatibility of software and hardware specifications	3	• Operating systems, applications, versions • Interoperability/compatibility issues of operating system and applications • Interoperability/compatibility of hardware and software
Entry	11.5 Comply with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability during integration	3	• HIT standards and systems interoperability • Network architectures • Information and data governance policies
Entry	11.6 Demonstrate the ability to systematically build or deconstruct system elements	3	• Hardware performance for optimal system functionality
Entry	11.7 Identify failing components and establishes root cause failures	3	• Troubleshooting procedures • Customer service scenarios

12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.

Level	Competency	Bloom's Level	Curricular Considerations

Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Entry	12.1 Apply actions to maintain health information system operations and avoid service disruptions in accordance to standards, policies, and requirements	3	• Processes for downtime, backup, and system restoration • Communication planning
Entry	12.2 Adhere to standards and policies to identify, classify and record incident types, service interruptions, service level failures, and security risks	3	• Corporate compliance and patient safety • HIT standards for HIM practices • Risk assessment • Incident reporting processes
Entry	12.3 Analyze health information systems performance data	4	• Strategic and organisational management • Workflow and process monitors • Resource allocation • Outcomes measures and monitoring • Metadata
Entry	12.4 Identify actions to improve service reliability	3	• End-user surveys • Continuous improvement processes (e.g. PDCA) • Qualitative practices to improve system performance
Entry	12.5 Interpret user problems and identify solutions based on basic product knowledge and following standards/policies	5	• Customer service • Interpersonal communication • Continuous learning and professional development • Processes to quickly respond to problems
13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Entry	13.5 Identify potential abuse or fraudulent trends through data analysis	3	• False Claims Act* • Whistle blower, STARK, Anti Kickback, unbundling, upcoding • Role of OIG, RAC • Fraud/Abuse • Billing data review
14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record

Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Entry	15.3 Adhere to work plans, policies, procedures, and resource requisitions in relation to job functions	3	• HR structure and operations • HR involvement in organisational change • Job Descriptions • Organisational chart
Entry	15.5 Describe negotiation, mediation, advocacy, people management principles	2	• Purpose of negotiation • Types of negotiation tactics/methods • Purpose and role of a mediator • Usefulness of negotiation tactics/methods • People management principles: o Maslow's Hierarchy of Needs o Erikson's life stages

Entry	15.6 Explain methods for empowerment, delegation and promoting improvement	2	• HIM Leader/Manager role • Intrinsic & Extrinsic rewards (motivators) • Employee recognition • Purpose of empowerment, delegation and the promotion of improvement • Benefits of empowerment, delegation and the promotion of improvement • Principles of delegation and empowerment: o Maslow's Hierarchy of Needs o Erikson's life stages • Self-awareness • Confidence building • S.M.A.R.T.E.R (Delegation Rule): o Specific o Measurable o Agreed o Realistic o Timebound o Ethical o Recorded • Impact on the individual and the HIM Department
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards

Entry	16.3 Explain software and network architecture, data warehousing, virtual network storage and applications, security and IT documentation	2	• Models of network architecture • System documentation tools and methods • Cloud computing • Data backup methods • Requirements engineering • Cyber security methods and theory • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices

17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*
Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates

Entry	17.1 Apply confidentiality, privacy and security measures, policies and procedures for internal and external use/exchange to protect health information (regardless of format)	3	• Information governance: protection • HIT standards for HIM practices • Internal and external standards, regulations, and initiatives • Patient verification • Medical identity theft • Data security concepts • Security processes and monitoring • Administrative, physical and technical safeguards
Entry	17.2 Apply retention and destruction policies for health information	3	• Information governance: retention • HIT standards for HIM practices • Data storage and retrieval • E-Discovery • Information archival, data warehouses • Incident reporting • Business Associates as defined by HIPAA
Entry	17.3 Apply system security policies according to departmental and organisational data/information standards	3	• Information governance: protection • HIT standards for HIM practices • Data breaches • Privileged communications • Policies for authorized users • Security processes and policies • Data/information standards
Entry	17.4 Apply the security and privacy implications of mobile health technologies	3	• Information governance: protection • HIT standards for HIM practices • Mobile technologies, patient portals, patient education, outreach, patient safety, PHRs, patient navigation
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies

Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
Entry	18.1 Define system vulnerabilities and threats based on a systematic scan of the environment	1	• Information governance: protection • HIT standards for HIM practices • Security processes and monitoring • Information system specifications • Scanning information systems hardware and software • Prioritization of vulnerabilities: minor, major and critical • Exploits and threats to security
Entry	18.2 Report non-compliance with security policies and procedures	3	• Information governance: compliance • HIT standards for HIM practices • Security processes and policies • System penetration testing practices to avoid cyber attacks • Data/information standards • Reporting measures

19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness

Entry	19.2 Apply management models, methods and theories	3	• Information governance • HIT standards for HIM practices • C-Suite (within various healthcare environment) o Team leadership concepts and techniques o Management and Leadership roles o Healthcare providers roles and disciplines • Future roles for HIM professionals
Entry	19.4 Explain leadership principles and concepts in the healthcare environment	2	• Leadership versus Management • Stages of Team Development
Entry	19.5 Describe emotional intelligence and relationship building techniques	2	• Emotional intelligence • Empathy • Organizational culture
Entry	19.6 Explain strategic thinking principles	2	• Innovation, creativity • Brainstorming • Collaboration
Entry	19.7 Describe the link between visions and goals to processes and outcomes	2	• Vision, Mission, goals • Benchmarking • Strategic plan
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Entry	20.1 Recognise the process of project planning and related components	2	• Project management methodologies • PMP • Software application

21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Entry	21.1 Apply the principles of the procurement process (e.g., orders based on existing contracts)	3	• Procurement considerations for industry sector (public, private, government)/vendor • Procurement o Request for proposal o Request for information • Request for quotation • Ethical and legal procurement considerations • Supply chain management
Entry	21.2 Ensure the correct execution of orders, including validation of deliverables and correlation with subsequent payments	5	• Order tracking through the pipeline • Order reconciliation
Entry	21.3 Explain vendor/contract management	2	• System acquisition and evaluation • Ethical/legal considerations • Global workforce assessment
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Entry	22.2 Utilize the organisation's quality policy	3	• Information governance: integrity and audit • HIT standards for HIM practices • Quality assessment and improvement • Process, collection tools, data analysis, reporting techniques • Patient advocacy and education • Patient safety concepts
Entry	22.4 Describe organisation accreditation requirements	2	• Voluntary participation • Requirements vary based on facility type and location (country, region) • Commitment to quality and service
Entry	22.5 Utilize internal and external data for benchmark comparisons	3	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Historical internal data over time • Comparative data for similar facility type, size of organisation, for profit/not for profit and country/region
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees

Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
Entry	23.1 Describe the concept of research and its impact on outcomes	2	• Evidence-based health practices • Body of knowledge
Entry	23.4 Demonstrate knowledge of research related to HIM for data collection, analysis, and interpretation	3	• Medical/clinical/health-related literature searches • Analysis/evaluation of literature • Information governance: availability, integrity, transparency, protection, retention and disposition • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Entry	24.1 Collect data from health information data sources used for risk management reporting	2	• Data collection • Information governance: availability, and protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk assessment • Security policies and procedures

Entry	24.2 Organise data for risk management reporting	3	• Data management • Reporting mechanisms • Information governance: availability, and protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)

Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)
Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis
Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Entry	25.1 Adhere to HIT standards	3	• Information governance: compliance, availability and integrity • HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC, CPT, RxNorm and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (guidelines, HIM practices) • Interoperability standards (ISO TC215)
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)

Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems
Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity

26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback
Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan
Entry	27.3 Explain communication, training and implementation methods related to health information systems	2	• Communication process • Purpose of training • Discuss Method(s) of Delivery: o In-Service o Power Point o Electronic (Recording or Live) o Consultant (External Expert) • Identify audience

28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Entry	28.1 Utilize tools and techniques to monitor, report, and improve processes	3	• QI/PI techniques integrations • Software application • Professional data visualization and display tools
Entry	28.2 Identify cost-saving and efficient means of achieving work processes and goals	3	• Job redesign/enrichment • Employee goal setting • Performance/Employee Evaluation • Work processes design (monitoring)
Entry	28.3 Utilize data for facility-wide outcomes reporting for quality management and performance improvement	3	• Data location for report generation • Data interpretation and analysis • QI/PI report generating • Professional data visualization and display tools

29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies

Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Entry	29.1 Describe local healthcare organisation structures	2	• Primary, secondary, and tertiary care • Inpatient versus ambulatory care • Organizational charts and reporting structures
Entry	29.2 Describe healthcare funding models	2	• Public and social funded healthcare delivery systems • Private insurance concepts • Donor-funded health services
Entry	29.3 Describe information systems for health information management at individual patient, community and national levels	2	• Data, information, knowledge, meaning, and wisdom hierarchy • Information governance • Health information systems • Health information systems interoperability • Health information exchange

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who

Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Intermediate	2.1 Interpret concepts of change management theories, techniques and leadership	5	• Change Management • Mergers • Risk exposure • Organisational design • EHR implementation
Intermediate	2.2 Identify stakeholders, their roles and relationships	3	• Patients • Clinicians and allied health • Administrative • Board of Directors • Community • Employees
Intermediate	2.3 Evaluate change requirements and utilize specialist skills to identify possible methods and standards that can be deployed	4	• Organisational development role • Organisational behaviour role • Systems analysts role
Intermediate	2.4 Apply change management techniques	3	• Leadership impact in change management • Stages of the Change Curve
3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*

Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations
5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance

Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement
Intermediate	5.2 Format data to satisfy integration needs	4	• Business requirements for data capture, structure, integrity, and use of health information • Functional requirements for information systems to enable data capture, structure, integrity, and use of health information • Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Information exchange standards (HL7, IHE) • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.3 Construct data dictionaries to define data elements, data sets and databases rules and to meet the needs of the enterprise	6	• Data dictionary composition • Data sources
Intermediate	5.4 Demonstrate compliance with internal and external data dictionary requirements	3	• Accreditation standards • The Joint Commission, NCQA, CARF, CHAP, URAC Data, HL7, ASTM, HEDIS, ACS data standards*
Intermediate	5.5 Advocate for systems interoperability and information exchange	5	• Generally accepted information governance principles • HIT standards to support HIM practices • HIT standards for systems interoperability • Stakeholder education in HIE, information governance, and standard for systems interoperability

Intermediate	5.6 Analyze information needs of customers across the healthcare continuum	4	• Capture, structure, manage, integrate, and use of health information • Requirements engineering (workflow and information flow modelling) • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.7 Evaluate data storage design	5	• Storage media, disaster recovery, cloud computing
Intermediate	5.8 Manage clinical indices/databases/registries	5	• Secondary data sources, registries, and indices • Healthcare data sets • HEDIS, UHDDS, OASIS* • Indices and registry policies
Intermediate	5.9 Apply knowledge of information systems to meet organisational needs	3	• Information systems design, development and operation • Requirements engineering • Information systems models (use cases, workflow and information flow, and architecture) • HIT standards and systems interoperability
Intermediate	5.10 Evaluate data from varying sources to create meaningful presentations	5	• Presentation software • Healthcare data • Indices and registries • Semantic interoperability: ISO TC215 semantic content standards
Intermediate	5.11 Implement and maintain policies, processes, methodologies and implementation procedures to support clinical decision making with system integration, interaction and exchange with clinical practice	3	• HIT standards and systems interoperability • Phases of HICT implementation • Provider/Patient portal training • Best practices for HICT implementation* o Define goals o Gain physician champions o Include other stakeholders o Work towards interoperability (define requirements, select standards-based certified ICT product, establish project management (milestones, timeline, documentation), test ICT implementation, train personnel)
Intermediate	5.12 Implement and manage effective record and system disaster recovery and management protocols and procedures	4	• Destruction plan • Backup strategies • Downtime procedures • Retention plans for paper and electronic systems

6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures

Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*
8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information

Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Intermediate	9.6 Conduct system testing to ensure data integrity and quality of health information exchange	6	• Integration, interfaces, and data reliability • Risk analysis
Intermediate	9.7 Evaluate various models for health information exchange	5	• RHIO, HIE • Data exchange standards

10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Intermediate	10.1 Take part in the development of information management plans that support the organisation's current and future strategy and goals	4	• Strategic planning process • Integration of systems • Information management strategic plan • Corporate/Enterprise strategic plan • Stakeholder needs assessment
Intermediate	10.2 Take part in the planning, design, selection, implementation, integration, testing, evaluation, and support of health information systems and technologies including designing for patient safety	4	• Facilitation, networking, consensus building • Meetings with executive boards and other high level organisation groups, interdisciplinary committees • System acquisition and evaluation • Contract management • RFI and RFP
Intermediate	10.3 Demonstrate relevant health information and communication technology and specifications to be deployed in the construction of multiple health ICT projects, applications or infrastructure improvements	3	• Information Management Plan, information as an asset • Integration, interfaces, and data reliability
Intermediate	10.4 Ensure that an application is correctly integrated within a complex environment and complies with user/customer needs	5	• Workflow design principles • Impact assessments • User surveys and evaluations
Intermediate	10.5 Assess new and emerging health information technologies (HIM, HI, HICT)	5	• Environmental scanning
Intermediate	10.6 Facilitate effective integration between clinical requirements and system functionality	4	• Information systems design: requirements engineering • Workflow analysis and optimization concepts • Needs assessments • Stakeholder communication • Clinical care concepts such as care plans, clinical pathways, and care coordination

Intermediate	10.7 Perform system testing, evaluation and continuous improvement	4	• Information systems design: testing • Methods for testing (conformance and compliance testing) • PDCA cycle • Project management • Planning and communication
Intermediate	10.8 Solve conflicting HIS requirements	6	• Information systems design: requirements engineering • Stakeholder involvement • Project management

11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure
Intermediate	11.1 Utilize complex applications in the management of health information	3	• Smart device applications (phones, tablets, personal monitoring devices) • Programming languages (C++, etc.) • Web-based applications (XML, HTML, Java)
Intermediate	11.2 Utilize wide-ranging specialist knowledge to create a process for the entire integration cycle, including the establishment of internal standards of practice	3	• Strategic plan and needs assessment • Hardware/software selection • System development life cycle
Intermediate	11.3 Ensure tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers	3	• Plan-Do-Check-Act • System development life cycle • System assessment criteria definitions
Intermediate	11.4 Verify compliance with testing procedures including a documented audit trail	4	• Testing protocols • Audit protocols • System development life cycle

Intermediate	11.5 Utilize specialist knowledge to influence solution construction providing advice and guidance	5	• System development life cycle • Solution strategies • Brainstorming, literature searches, peer consultation
Intermediate	11.6 Ensure interoperability and compatibility of the system components	6	• System development life cycle • Compatibility issues of operating system and applications • Compatibility of hardware and software
Intermediate	11.7 Manage complexity by developing standard procedures and architectures in support of cohesive product development	6	• System development life cycle
Intermediate	11.9 Optimize application development, maintenance, and performance by employing design patterns and by reusing proved solutions	5	• Workflow reengineering, workflow design techniques • System development life cycle
Intermediate	11.10 Verify test script accuracy	4	• Test planning • Test specifications • Test execution • Test results (recording) • Test completion (confirmation)

12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Intermediate	12.1 Assess the integrity of the system by troubleshooting, maintenance, and upgrades including controlling the application of functional updates, software or hardware additions and maintenance activities	5	• Authentication, encryption, password management • Access logs • Needs assessment

Intermediate	12.2 Assess the health ICT infrastructure and problem management process to identify failures and resolve with minimum outage	5	• Issue tracking, facilitation techniques, opportunity costs • Project management • Communication techniques and planning
Intermediate	12.3 Manage resource allocations, costs, and budget required for operational management and support of the health information system infrastructure in line with service level agreements	5	• Accounting • Cost/benefit analysis • Outsourcing, acquisition
13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices

Intermediate	13.4 Determine policies and procedures to monitor abuse or fraudulent trends	5	• Patient verification and identity management policies • Privacy, confidentiality, security principles, policies and procedures, country or region-specific laws • E-Discovery
14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training
Intermediate	15.7 Apply negotiation, mediation, advocacy, people management principles to resolve conflicts and achieve outcomes	3	• Employ resolution tactics • Team building/collaboration exercises • Establish an existence of respect and positivity within the workplace • Determining conflict management style (Leadership) • Scientific methods for conflict management o ERI (Emotions-reasons-intuition) approach • Conflict risk assessment
Intermediate	15.8 Analyze methods to empower, delegate and promote improvement within a healthcare team	4	• Employ appropriate disciplinary actions/measures • Proper documentation of conflicts for legal purposes • Trust, confidence and self-awareness (in order to master the skill of delegation) • Perform various QI tools to increase the level of quality within the workplace • Mentorship (mentor and mentee relationship) • Psychometric analysis/measurement • Benefits of healthy workplace conflict • Workplace needs assessment • Job design/redesign
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics
Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)

Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards
Intermediate	16.1 Apply knowledge of database architecture and design to ensure that health information systems support organisational strategy within the information governance framework	3	• Perform various QI tools to increase the level of quality within the workplace • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
Intermediate	16.4 Analyze business processes and associated information requirements and provide the most appropriate information structure	5	• Information Systems: requirement analysis • HIT standards for HIM practices • Benefits of healthy workplace conflict

17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*
Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates

Intermediate	17.4 Recommend elements included in the design of audit trails and data quality monitoring programs	5	• Information governance: audit and protection • HIT standards for HIM practices • Data security • Audits, controls, data recovery e-security • Disaster recovery planning • Business continuity planning
Intermediate	17.5 Collaborate in the design and implementation of risk assessment, contingency planning, and data recovery procedures	4	• Information governance: protection • HIT standards for HIM practices • Health information archival and retrieval systems • Data security protection methods • Authentication, encryption, decryption, firewalls
Intermediate	17.6 Analyze the security and privacy implications of mobile health technologies	4	• Information governance: protection • HIT standards for HIM practices • Security threats of mobile device, healthcare delivery via mobile devices • Firewalls/encryption
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
Intermediate	18.1 Examine compliance with security management measures/indicators and decide if compliant to information security policy	4	• Information governance: compliance and protection • HIT standards for HIM practices • Compliance regulations • Regulatory changes • Policies and procedures • Privacy and security • Key performance indicators • Audit approaches and concepts

Intermediate	18.2 Manage remedial measures to address any security breaches	5	• Information governance: compliance and protection • HIT standards for HIM practices • Data protection • Security measures • Access protocols • Education and training principles • Management function of control • Concepts related to accountability

19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Intermediate	19.2 Apply general principles of management in the administration of health information services	3	• Communication and interpersonal skills • Emotional intelligence • People developer/staffing mentor • Negotiation • Leadership and governance • Information governance • HIT standards for HIM practices
Intermediate	19.3 Facilitate meetings	4	• Facilitating, networking Meetings with executive boards and other high level organisation groups, interdisciplinary committees

Intermediate	19.4 Take part in effective negotiating and use influencing skills	4	• Negotiation techniques
Intermediate	19.5 Discover personal leadership style using contemporary leadership theory and principles	3	• Professional development for self • Role of HIM in the C-Suite • Leadership practices and professional development
Intermediate	19.6 Create health information related policy	6	• HIM guidelines and policy creation • Information governance • HIT standards for HIM practices
Intermediate	19.7 Apply leadership principles and concepts in the healthcare environment	3	• Leadership styles & Management styles • Communication • Delegation
Intermediate	19.8 Apply emotional intelligence and relationship building techniques to achieve outcomes within a healthcare setting	3	• Self Awareness: Strengths& Weaknesses • Communication: written, verbal, virtual • Team building • Succession planning
Intermediate	19.9 Apply strategic thinking principles to achieve outcomes	3	• Benchmarking • Quality management programs • Objectives/action plans
Intermediate	19.10 Facilitate visions and goals and integrate them with processes and outcomes	4	• Environmental scan • Strategic planning
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose

Intermediate	20.3 Facilitate project management by integrating work efforts	4	• Issue tracking, facilitation techniques, opportunity costs • Project management/Project milestones • Interactivity dependencies and timing constraints • Resources (time, people, money) • Change requests from stakeholders
Intermediate	20.4 Build effective teams	6	• Interdisciplinary workgroups and project teams • Communication plans • Team charter
21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Intermediate	21.1 Evaluate specialist knowledge to inform the purchasing process	5	• Purchasing process policies • Purchasing process • User/organisational needs • Vendor selection process (product selection) • Purchasing budgets • RFPs (solicit vendor bids) • Project management • Purchasing contracts
Intermediate	21.2 Evaluate performance, cost, timeliness and quality information to select suppliers, products, and services	5	• Purchasing • Vendor selection process (product selection) • Decision matrix (vendor) • RFPs (solicit vendor bids) • Purchasing budgets
Intermediate	21.3 Evaluate vendor contracts and service level agreements	5	• System acquisition and evaluation • Contract management • Vendor selection process (product selection) • Contracts evaluation/analysis/reviews
Intermediate	21.4 Take part in negotiations related to contracts and/or service level agreements	4	• Negotiation techniques • Risk and revenue assessment • Effective communication strategies

22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Intermediate	22.1 Examine quality and process indicators and propose remedial action	4	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • CDI concurrent, retrospective, post-bill review • CDI metrics and reporting process • Joint Commission*, DNV (ISO 9001) • Structure, process, outcome framework • Benchmarking • Outcomes measurement • Quality management models
Intermediate	22.4 Analyze systems for quality maintenance and consistent outcomes within the healthcare setting	4	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Data collected and datasets maintained are derived from and consistent with identified internal and external benchmarks; accreditation/certification/licensure guidelines; and published best

Intermediate	22.5 Manage health information to maintain quality improvement and patient safety, accreditation evidence and benchmarking	5	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Data collected and datasets maintained are derived from and consistent with identified internal and external benchmarks; accreditation/certification/licensure guidelines; and published best practices
Intermediate	22.6 Analyze data and act accordingly to maintain quality and patient safety	4	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Multi-level database queries and report generation • Measures, metrics and reports are aligned with and consistent with identified quality and patient safety goals
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees
Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention
Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Intermediate	24.1 Apply principles of risk management to mitigate identified risks	3	• Information governance: protection • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications • Fraud detection • Education and training principles • Privacy and security laws and regulations, adult education strategies, training methods • Risk identification • Problem analysis • Compliance concepts • Risk mitigation • Incident reporting systems
Intermediate	24.2 Promote the organisation's risk analysis outcomes and risk management processes	3	• Information governance: retention, disposition, and protection • HIT standards for HIM practices • Health information archival and retrieval systems • Data security protection methods • Authentication, encryption, decryption, firewalls • Mitigation strategies • Policies and procedures • Culture of compliance
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)
Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)
Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis

Foundational	25.1 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Intermediate	25.2 Identify the functions and relationships between healthcare classification systems and terminologies	3	• Healthcare classification systems and taxonomies • ICD, CPT, SNOMED CT, DSM, RxNorm
Intermediate	25.3 Map terminologies, vocabularies, and classification systems	3	• Standard clinical terminology to a HIPAA code set maps • LOINC to CPT or SNOMED CT to ICD • Code set to code set maps • One revision of ICD to another
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)
Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems

Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback

Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Intermediate	26.3 Utilize enterprise-wide information assets in support of organisational strategies and objectives	3	• Information governance principles • Data and information inventory • Knowledge management concepts • HIT systems interoperability (semantic, technical, and functional) • HIT standards
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan
Intermediate	27.1 Evaluate initial and on-going training programs	5	• Information Systems • Clinical Documentation Improvement • Compliance • Prospective Payment System • CDR • Health information Systems (EHR, LMIS, pharmacy, and other) • Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards

Intermediate	27.2 Develop training programs and deliver content appropriately to stakeholders	5	• Learning Management Systems • Virtual laboratories • Instructional Design Software tools • Teaching techniques and strategies • Learner competencies • Training records maintenance • Measure of effectiveness
Intermediate	27.3 Take part in communication, training and implementation methods related to health information systems	4	• Assist in Designing, planning and conducting training initiatives • Identify topics important/relevant to deliver/present • Design methods of delivery pertaining selected topics • Create tools and resources such as syllabus, lectures', outlines, schedules, assignments, readings, handouts, evaluations, etc.
28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Intermediate	28.3 Demonstrate workflow concepts	3	• Stakeholder needs assessment • Benchmarking • Employee feedback/input
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services

Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Intermediate	29.1 Collaborate with healthcare organisation structures to achieve organisational goals	4	• Approaches to collaboration, communication, and achieving buy-in • Leadership concepts • Leadership styles

1.0 Analytics and Statistics: Analyze data to support decision-making, healthcare practice, and gain knowledge/business intelligence through various methods and techniques such as data mining development of models, and statistical measurements. Understands availability and structure of internal and external data/datasets, databases, and common healthcare statistics/biostatistics. May apply analytical and statistical techniques and/or interpret statistics to support decision-making such as operations, healthcare delivery, quality improvement, payment models, strategy, etc., and create business/health intelligence.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	1.1 Demonstrate an understanding of healthcare statistics	3	• Death rates • Birth rates • Census rates
Foundational	1.2 Analyze data to identify trends	3	• Mean • Median • Mode
Foundational	1.3 Utilize data visualization tools and methods to present healthcare data (graphs, table, etc.)	3	• Presentation Software applications • Pie charts, bar graphs, tables, etc.
Foundational	1.4 Explain data types	2	• Nominal • Ordinal • Interval • Ratio
Foundational	1.5 Explain analytics role in knowledge generation, management and preservation; explain relations between analytics and informatics	2	• Data, information, knowledge, meaning, wisdom • Actionable information based upon key performance indicators • Informatics and health informatics domains (sub-disciplines including pharmacy informatics, biomedical informatics, dental informatics, imaging informatics, clinical informatics, nursing informatics, public health informatics) • Semantic interoperability and standards • Learning Health System
Advanced	1.2 Design data sources for intelligence extraction	6	• Data sources for statistical testing and applications o EHRs o Clinical data repositories o Patient/population registries o Financial o Patient experience o Costing o Supply chain • Relational databases • Metadata repository • Enterprise data warehouse • Data sources • Extracting and synthesizing from data sources

Advanced	1.6 Apply statistical business models to leverage enterprise wide information assets	3	• Suggestive analytics • Predictive analytics • Prescriptive statistics • Permanent multidisciplinary collaboration across clinical, administrative and staff business units • Statistical Business model
2.0 Change Management: Understand the process of introducing change, getting it adopted, and diffusing it throughout the organisation. Ability to assess the implications of new solutions (including information and communication technology) and quantify benefits. Ability to maintain continuity throughout the change, monitor impact, take action, and refine approach as needed.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	2.1 Demonstrate effective stakeholder communications	3	• Mission statements • Road maps • Value statements
Foundational	2.2 Describe the impact of change management on processes, people, and systems	2	• Organisational Change Management (OCM) • Customer Relationship Management (CRM) • What, What else, How, and Who
Foundational	2.3 Demonstrate an understanding of management concepts and functions	2	• Organizing • Leading • Controlling • Planning • Staffing
Advanced	2.1 Identify stakeholders, their roles and relationships	3	• Champion(s)/supporter(s) • Clinical and administrative support • Cross functional relationships • Internal stakeholders • External stakeholders • Change agents • Change management team
Advanced	2.2 Create the change management plan	6	• Change path • Workflow analysis • Quality improvement process • Executive level support • Survey stakeholders • Team Building Techniques • Learning organisation culture

Advanced	2.3 Implement change management plan	3	• Communication • Change resistance • Deployment of plan • Training and support • Milestones • Stakeholder resistance management • Lewin's three-step model • Kotter's 8 step plan for implementing change
Advanced	2.4 Evaluate the change management plan	5	• User feedback • Customer feedback • Patient feedback • Adjustment(s) • Quality improvement process • Stakeholder performance and acceptance of change • Culture of innovation • Learning organisation adapt and change methods
Advanced	2.5 Manage IT led business change	5	• Human resources • Financial considerations • IT system selection • Project management • Team management • Communication development between departments
Advanced	2.6 Influence organisational and professional behaviour change	5	• Leadership theory • Analytics • Leadership theory • Organisational development theories • Change management theories
Advanced	2.7 Design change management processes	6	• Stages of the Change Curve • Principles of change management o Lead with the culture o Start at the top o Involve every layer o Make the case for change together o Act into new thinking o Engage o Lead outside the lines o Leverage formal/informal solutions • Assess and adapt

3.0 Classification of Disease, Coding Diagnoses and Procedures: Assign numeric and/or alphanumeric representations to clinical documentation to reflect medical conditions, health interventions, procedures and/or services in accordance with a designated classification system or code set and in compliance with related regulations/guidelines and ethical standards. Apply knowledge of how coded data for diagnoses, procedures and services are used in healthcare including for management, reporting, reimbursement, and research. Enable semantic interoperability between health information systems. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	3.1 Demonstrate fluency with medical terminology	3	• Medical Terminology, anatomy and pathophysiology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, CPT, RxNorm, AMT, ATC, and other*
Foundational	3.2 Demonstrate fluency with principles of anatomy and physiology, pathology, and pharmacology	3	• Anatomy and Physiology; Pathophysiology, and Pharmacology • Data Standards (vocabularies and terminologies): ICD, ICF, ICD-O, DSM, SNOMED CT, LOINC, UCUM, AMT, ATC, dm+d* • Coding for morbidity and mortality purposes, special disease collections, describing functioning and disability
Foundational	3.3 Utilize appropriate heath information classification systems and terminologies	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Effects of national/international coding rules and standards on application of coding systems
Foundational	3.4 Demonstrate basic understanding of disease classification systems	3	• Principles and applications of classification, taxonomies, nomenclatures, terminologies, clinical vocabularies • Identify uses and users of classifications and terminologies
Foundational	3.5 Demonstrate ability to problem solve	3	• Critical thinking
Advanced	3.5 Collaborate with Case-mix Managers	4	• Coding audits • Revenue Cycle Management • Clinical Documentation Improvement • Case-Mix Management • Revenue Cycle Management
4.0 Clinical Documentation Improvement (CDI): Implement and utilize the CDI process to improve clinical documentation that will support coding, clinical care provision, data analysis and decision making. * represents U.S.-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	4.1 Explain concepts and processes to improve the quality of clinical documentation	2	• AHIMA CDI toolbox; physician and staff education* • International, National, and Regional Health Record laws and regulations
5.0 Data Management and Information Governance: Manage organisational and health data through its lifecycle ensuring its availability, usability, integrity, and security to meet the needs of data users. Ensure data stewardship (custodianship) responsibilities are conceptualized and carried out through policies and processes for access, management, and permissible uses of data. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	5.1 Demonstrate an understanding of important data, information and knowledge assets in healthcare organisation	3	• Data, information and knowledge asset inventory • Introduction to informatics as data, information and knowledge management tool • Learning health system
Foundational	5.2 Identify information governance tools	3	• Best practices for information governance • Information management procedures • HIT standards to support information governance
Foundational	5.3 Verify that data collection activities meet data definitions and standards	4	• Data standards (vocabulary and terminology): ICD, SNOMED CT, LOINC and other • Information content standards (structured and unstructured data formats) : HL7 CDA, HL7 FHIR, NLP • Semantic interoperability: ISO TC215 semantic content standards • Software tools for semantic interoperability (IHE ArtDecor, CAP eCC, CDISC SHARE, AHIMA HIT Implementation, other)* • Data analysis
Foundational	5.4 Identify Best Practices for the management of heath information	3	• Health information systems including EHR, PHR, EMR, LIMS and other • Health information exchanges • Health information protection, e.g., Health Insurance Portability and Accountability Act (HIPAA)*
Foundational	5.5 Identify threats to data integrity and validity	3	• Data integrity protection systems • Tools to monitor data movement

Advanced	5.1 Model the use of various data sources for managing health information	3	• Data sources primary and secondary • UHDDS, HEDIS, OASIS* • Specialized data collection systems • Data mapping, data warehousing • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Methods for data integration and semantic interoperability including data mining (NLP), content generation standards (SQL, IHE RFD,
Advanced	5.2 Validate the quality of various data sources according to an appropriate data quality framework	3	• Access control mechanisms • Input validation • Defence in depth theory of validation • Whitelisting/blacklisting • HIT standards for systems interoperability
Advanced	5.3 Compile data from various data sources	6	• Enterprise reporting tools • Presentation tools • HIT standards and systems interoperability • Information governance for data availability, integrity and protection
Advanced	5.4 Integrate data from various data sources	6	• Data sources primary and secondary • UHDDS, HEDIS, OASIS* • Specialized data collection systems • Data mapping, data warehousing • HIT standards and systems interoperability • Information governance for data availability, integrity and protection
Advanced	5.6 Propose data interoperability and sharing policies, structures, methods	6	• Technical standards • Services considerations • Contracts and negotiation • Hardware and application compatibility

Advanced	5.7 Recommend policies and HIT standards to support system interoperability and information sharing	5	• NIEM (national information exchange model) • HL7 • ASTM • HEDIS • OASIS • UHDDS • Meaningful Use • RxNorm • Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • Methods for data integration and semantic interoperability including data mining (NLP), content generation standards (SQL, IHE RFD,
Advanced	5.8 Develop data management policies	6	• Business analytics management • Clinical analytics management • Medical decision-making • Healthcare research analytics management • Information governance for information retention • Information systems interoperability (semantic, technical and functional) • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR)

Advanced	5.9 Design patient-centred health information systems	6	• Document information system requirements using workflow tools: o Use cases o Workflow and information flow o Functional and non-functional requirements o System architecture and software and hardware requirements • Identify business actors (people) and technical actors (systems)
Advanced	5.10 Manage virtual network communications	5	• Cloud technologies/computing
Advanced	5.12 Develop and/or recommend effective communication strategies, training and implementation methods related to health information systems	6	• Requirements engineering • Communication feedback loop • Professional development • Effective measurement o Surveys o Focus groups o Blocks/Barriers
Advanced	5.14 Verify accuracy, completeness, and relevance of data and data sources for patient care, management, billing reports, registries and/or databases	4	• Clinical documentation improvement • Population health management • Quality outcomes • Information governance for data integrity • HIT standards for semantic Interoperability (ISO TC215)
Advanced	5.15 Create information from secondary data sources	6	• Information governance for data integrity • HIT standards for semantic Interoperability (ISO TC215) Specific examples of secondary uses of clinical data may include: • Trend identification • Population health management • Quality initiatives • Resource management
6.0 Data Quality and Information Integrity: Maintain reliability and effectiveness of data for its intended uses including for care delivery, operations, decision making, and planning. Establish processes to ensure that healthcare data are complete, accurate, consistent, timely, and secure from malicious or accidental modification or corruption. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	6.1 Identify threats to data integrity and validity	3	• Information governance for data integrity • Health information systems, e.g., EHR • HIE • HIPAA regulation for Data Security*
Foundational	6.2 Identify Best Practices for the management of heath information	3	• Information governance for data integrity • HIT standards for HIM practices • Data integrity protection systems • Tools to monitor data movement
Foundational	6.3 Identify HIT standards for health information integrity	3	• Information systems interoperability (semantic, technical and functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)

7.0 Ethics: Understand and apply professional principles, theories and values in practice. For a healthcare organisation this includes having programs (formal and informal) that support an ethical culture and decision-making processes to deal with the competing perspectives and obligations. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	7.1 Explain how cultural issues affect health, healthcare quality, cost, and HIM	2	• Cultural considerations
Foundational	7.2 Implement programs and policies that support a culture of diversity	3	• Ethical policies and enforcement procedures
Foundational	7.3 Demonstrate an understanding of the implications of unethical behaviour in HIM healthcare, organisational culture and human resources practices	3	• Ethical discipline and/or dismissal • Discriminatory policies • Research ethics
Foundational	7.4 Apply legal and ethical framework in healthcare	3	• Professional ethics policies and guidelines
Foundational	7.5 Demonstrate awareness of ethical principles in the use of health information	3	• Professional ethics policies and guidelines • AHIMA Code of Ethics*

8.0 Financial Management: Management responsibilities related to planning, organizing, directing, and/or controlling the financial activities of a department, business unit, or organisation.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	8.1 Describe health funding and reimbursement models	2	• Mechanisms for financing health services • Health policy • Private and public payers • Reimbursement methodologies • Types of health systems
9.0 Health Information Access, Disclosure, and Exchange: Create and apply strategies, policies, and processes related to health information access, disclosure and exchange including integration with related information systems and databases when appropriate.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	9.1 Describe health information principles	2	• Indicators of quality in clinical documentation • Information governance principles and maturity model • Definitions related to health information management and health informatics • Data and information stewardship
Foundational	9.2 Manage processes to ensure the privacy and protection of health information	4	• Privacy standards, laws, regulations • Information governance: protection • Health information systems interoperability (semantic, technical, and functional) • HIT standards for information privacy and security • Patient identity and verification laws regulations • Data security processes • Medical identity theft • Safeguards • Professional obligations related to privacy and protection of health information
Foundational	9.3 Advocate for patient's rights to privacy and access to health information	4	• Patient rights to privacy standards, laws and regulations • Patients' rights to access
Advanced	9.1 Mitigate access and report and monitor risks	5	• Information governance: protection • Case risk analysis, mitigation ,and management • Breach analysis and notification requirements • Gap analysis of current policies and procedures
Advanced	9.4 Manage breaches of policies/procedures and protocols effectively	5	• Information governance: protection • Case risk analysis, mitigation, and management • Breach analysis and notification requirements

10.0 Health Information Systems and Application Design and Planning: Specify, refine, update, produce, and make available a formal approach to implement information and communication technology solutions necessary to develop and operate the health information system architecture in support of the organisation priorities. Stay apprised of innovative solutions for integration of new technology into existing products, applications, or services. Identify and clarify user needs (internal/external customers) and organisational policy to ensure system architecture and applications are in line with business requirements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	10.1 Explain digital literacy	2	• Computer concepts and applications • Computer literacy • Information appraisal skills
Foundational	10.2 Summarize the need to balance appropriate access to and control of electronic health data	2	• Information governance including access and control of health data
Foundational	10.3 Utilize health technology solutions to protect electronic health data from inappropriate disclosure, access, and use	3	• Privacy and security law • Types of health information systems and technologies • Information security measures
Foundational	10.4 Explain communication technologies commonly used in healthcare	2	• HIT systems • Computing technology • Telecommunications • Network infrastructure • Tablet devices • Cloud-based computing
Foundational	10.5 Identify elements of HIS management	3	• Health Information Systems (HIS) management • EHR conceptual framework concepts • Privacy and security concepts and necessary personnel
Foundational	10.6 Identify health information system resources	3	• Health Information Systems • Professional resources • Vendor resources

Foundational	10.7 Identify HIT standards and systems interoperability	3	• Health information systems interoperability (semantic, technical, functional) • HIT standards for systems interoperability • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT standards for HIM practices
Advanced	10.1 Create health information systems to ensure safety and compliance	6	• International, National and Regional regulatory, legal, accreditation and certification requirements
Advanced	10.2 Develop the organisational strategy for health information management systems compliant with business needs taking into account the current technology platform, obsolescent equipment, and latest technological innovations	6	• Database design and administration • Data warehousing • Population databases • Secondary and derived databases • Legal health record • Designated data set • Programming languages • SQL • Java • Retention/archival strategies and policies
Advanced	10.3 Lead the support of the customers (internal or external) business needs and strategy to offer possible solutions and suppliers	6	• Professional networking
Advanced	10.4 Plan strategic decisions relevant to future health ICT solutions for customer-oriented processes, new business products and services	6	• Return on investment • Cost-benefit analysis • Regulatory requirements • Quality improvement • Patient safety • Risk management
Advanced	10.5 Evaluate the status quo and provide strategic leadership for the introduction of revolutionary concepts	5	• Environmental scanning • Strategic planning and management • Policy management

Advanced	10.6 Develop information systems in line with clinical decision making, decision support and evidenced based requirements	6	• Comprehensive environmental scans • System development lifecycle • Integrated support systems
Advanced	10.7 Specify HIS requirements	6	• Information systems design: requirements engineering • Constructivist model
11.0 Health Information Systems and Application Development and Deployment: Engineer health information software and/or hardware components to meet solution requirements such as specifications, costs, quality, time, energy efficiency, information security, and data protection. Integrate hardware, software or sub-system components into an existing or a new system. Interpret the application design to develop a suitable application in accordance with customer needs. Code, debug, test and document, and communicate product development stages. Implement software and hardware solutions, including installing, upgrading, or decommissioning.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	11.1 Identify information systems development process	2	• Information systems design, development and operation
Foundational	11. 2 Collect electronic data as necessary to facilitate the healthcare process	2	• Data quality concepts • Structured and unstructured data
Foundational	11.3 Select data elements needed to support the healthcare process	3	• Information appraisal skills • Primary and secondary uses and users of healthcare data
Foundational	11.4 Recommend data elements needed to support the healthcare process	5	• Needs assessment processes • Internal and external stakeholders • Country or region specific healthcare delivery system structure

Advanced	11.1 Build integrated health ICT solutions to meet stakeholder needs	6	• Human computer interaction in all integrated systems • EHR o Lab, pharmacy o Imaging o Clinical Decision Support Systems (CDSS) o Clinical Data Repository (CDR) o Document Imaging System (DIS) o Picture Archiving Communication system (PAC) o Computerized Physician Order Entry (CPOE) o Closed loop medication administration o Radio frequency identification (RFI) o Full clinician documentation o Filmless radiology o Paperless electronic health records o Enterprise data warehouse (EDW) o Continuity of Care record o Health Information Exchange o Summary data across enterprise • HIT standards and systems interoperability • PHR Interoperability/Compatibility • Population databases
Advanced	11.2 Create a process for the integration cycle	5	• Networking principles, methods, and designs • Application interfaces • Database conversions
Advanced	11.3 Specify integration resources	6	• Secondary and derived databases • Capital/operating budget • Acquisition/procurement procedures (RFI, RFP, etc.)
Advanced	11.4 Create a testing procedure	6	• End to End testing • Application testing • Alpha/beta testing • Functional testing o Unit testing o Integration testing o System testing o Acceptance testing • Non-Functional testing o Performance testing o Security testing o Usability testing o Compatibility testing

Advanced	11.5 Ensure system functionality meets clinical requirements	5	• Test cases • Use cases • End to end testing (stakeholder criteria met?)
12.0 Health Information Systems and Application Support: Take proactive action to ensure stable and secure applications and health ICT infrastructure to avoid potential service disruptions including proactive approaches to avoid or identify the root cause of ICT problems. Ensure efficient control and scheduling of software or hardware modifications to prevent multiple upgrades creating unpredictable outcomes. Respond to user requests and issues, recording relevant information. Assure resolution or escalate incidents and optimize system performance.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	12.1 Promote effective use of healthcare systems to meet needs of all stakeholders in the healthcare process	3	• End-user training • Technology literacy • Policies and procedures for information system access and use
Foundational	12. 2 Identify information governance policies and practices	3	• Information governance maturity model • HIT standards for HIM practices • Policies and procedures for information system access and use
Advanced	12.1 Lead problem management process ensuring trained human resources, tools, and diagnostic equipment are available to meet incidents	6	• Disaster preparedness • Contingency planning • Communication planning
Advanced	12.2 Assess critical component failure and make provision for recovery with minimum downtime	5	• Downtime processes • Contingency planning • Communication plan
Advanced	12.3 Construct escalation processes to ensure that appropriate resources can be applied to each incident	6	• Incident reporting procedures • Communication planning • Policy and procedure creation • Contingency planning
13.0 Health Law, Regulation, Accreditation, and/or Certification: Knowledge of applicable jurisdictional health law, regulation, accreditation standards and/or certification requirements as relevant. Organisation and implementation of strategies to maintain compliance with applicable laws, regulations, standards, and requirements. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	13.1 Define laws, regulations, and standards that guide the practice of the health information professions	1	• International, National, and Regional Laws, regulations, and standards pertaining to: o Information privacy and security and information technology implementation and use o Documentation authorship and clinical documentation requirements o Patient safety and compliance o Coded clinical data and reimbursement processes
Foundational	13.2 Adhere to laws, regulations, and standards that guide the practice of the health information professions	3	• Compliance programs • Professional development • Audits and accreditation processes
Foundational	13.3 Discuss relevant healthcare laws	2	• Current International, National, and Regional laws pertaining to healthcare delivery, e.g., o HIPAA* o HITECH Act* • Health policy initiatives
Foundational	13.4 Explain Quality Management principles	2	• Quality management concepts • Performance improvement concepts • Processes included in quality management • Quality management tools
Foundational	13.5 Explain Information Governance principles, policies and standards	2	• Information governance • HIT standards for HIM practices
Advanced	13.3 Analyze standards and regulations in healthcare and how they drive and/or constrain operations	4	• Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • HIT standards for HIM practices • HIPAA, ARRA, HITECH, Meaningful Use, ACOs, ACA, GINA, Medicare/Medicaid* • E-discovery • Stark • Red Flag • International law • National, regional, and/or country or region specific laws • Public policy and lobbying efforts • Advocacy
Advanced	13.6 Develop forensic models for surveillance and improvement measures	6	• Trend analysis presentation and communication

14.0 Health Record Content & Documentation: Maintain the patient's or client's health record as the official record of care, treatment, and services in accordance with applicable laws, regulations, and standards. Ensure that the health record contains complete and accurate relevant documentation and necessary medical, health, and wellness information (such as medical history, care or treatments received, test results, diagnoses, and medications taken) to meet the needs of the patient and their health team. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	14.1 Explain the health record and its importance in the health information professions	2	• Legal Record • Continuity of Care • Patient quality of care • Support billing • Primary and secondary uses of the heath record
Foundational	14.2 Explain documentation principles in healthcare appropriate for the technology utilized	2	• Data quality concepts • Clinical documentation improvement • Data and information integrity • Authorship of clinical documentation • Paper, hybrid, and electronic health records
Foundational	14.3 Identify health record documentation requirements	3	• Policies • Laws and regulations • Data dictionary • Accreditation standards
Foundational	14.4 Describe the roles and responsibilities of the interdisciplinary healthcare team in documentation requirements	2	• Roles of clinical and administrative staff • Collaboration • The health record as a communication tool • Legal concepts related to documentation authorship and accountability
15.0 Human Resource Management: Responsible for activities related to employees, staffing, recruitment, training, and development; performance appraisals in accordance with the jurisdictional law and organisation's strategic objectives, policies, and systems.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	15.1 Describe the importance of compliance with laws, regulations, standards and guidelines intended to ensure an effective healthcare workforce	2	• Legal and ethical obligations • Compliance concepts • Verification of staff qualifications • Equal employment opportunities and non-discriminatory practices
Foundational	15.2 Explain concepts of Human Resource development	2	• Appropriate and effective approaches in recruitment, hiring, retention, and termination • Professional development and staff training

Advanced	15.4 Ensure that the relationship between the department and staff is managed within a clear and appropriate framework	5	• Cross departmental collaboration • Teamwork • Effective communication • Team building
Advanced	15.7 Solve conflict using mediation and conflict resolution techniques	6	• Understanding the types of workplace conflicts o Personality o Leadership style o Gender, cultural, and religious differences etc. o Internal (self-confidence, validation, past experiences, appearances, self-esteem etc.) • Change management • Conflict risk assessment • Interpersonal analysis • Mediator (neutral party) • Personality/characteristics measure • Identify appropriate disciplinary actions/measures • QI tools (root cause analysis aka fishbone diagram) to identify major source of conflict' • Negotiation techniques to resolve conflict • Employee assistance program (EAP) counselling; referral's for clinical assistance
Advanced	15.8 Master the skills of empowerment, delegation and promotion of continuous quality improvement within a healthcare team	6	• Employ appropriate disciplinary actions/measures • Proper documentation of conflicts for legal purposes • Trust, confidence and self-awareness (in order to master the skill of delegation) • Perform various QI tools to increase the level of quality within the workplace • Mentorship (mentor and mentee relationship) • Psychometric analysis/measurement • Benefits of healthy workplace conflict
16.0 Information and Information Systems Governance: Define, deploy, and control the organisation-wide framework for managing enterprise information and the information systems throughout its lifecycle in line with the organisation's strategy, operations, jurisdictional laws/regulatory, legal, risk, and environmental requirements. Create an information structure and deploy tools to capitalize on information assets and gain business			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	16.1 Define characteristics of high quality data	1	• Data Interpretation • Quality • Data quality characteristics

Foundational	16.2 Explain the framework for Information system Management	2	• Information systems (IS) • Types of IS • Systems Development Life Cycle (SDLC) Systems Life Cycle (SLC)
Foundational	16.3 Illustrate basic Information Systems requirements in healthcare	2	• Supporting software and technological components • User training • Privacy, security and confidentiality safeguards
Advanced	16.1 Apply enterprise-wide strategic planning and design information management tools, resources for operational data flow and mission-critical business decisions	6	• Information governance • HIT standards for HIM practices • Requirements engineering
Advanced	16.4 Govern information assets within the governance framework to ensure information is available to meet the organisation's objectives	6	• Collaboration techniques • Accountability • Information governance principles • Inventory of data sources
Advanced	16.5 Lead for IT governance strategies by communicating, propagating and controlling relevant processes across the entire IT infrastructure	6	• Marketing strategies • Strategic positioning • Negotiation skills • Political navigation skills • Cross departmental collaboration • Effective and timely communication • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
Advanced	16.6 Construct an IT governance strategy incorporating it into an organisation's corporate governance strategy	6	• Mission, vision and values • Project management • Leadership • Organisation Long-term & short-term IT goals (strategy) • User/Organisational Needs (IT) • Organisational/Support • Organisational Transparency (communication) • Benchmarking • Analysis and integration • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices
Advanced	16.7 Ensure the IT governance strategy takes into account new significant events arising from legal, economic, political, business or environmental issues	6	• Leadership • Internal/External forecasting (legal, economic, political, and environmental) • External networking • Board of Directors influence/insight

Advanced	16.8 Integrate an appropriate information structure into the corporate environment	5	• Organisational culture • Analysis and integration • User/organisational needs (IT) • Organisational/support • Organisational transparency (communication) • Data/information flow • Processes and procedures • Information governance • Systems interoperability (semantic, technical, functional) • HIT standards for HIM practices

17.0 Information Protection - Data Privacy, Confidentiality and Security: Understand applicable healthcare law, regulation, and standards related to information protection of various stakeholders and able to develop related privacy, security, and confidentiality policies' and develop/maintain an organisational infrastructure. Educate stakeholders on health information protection methods and their responsibilities.

* represents country-specific examples

Level	Competency	Bloom's Level	Curricular Considerations
Foundational	17.1 Explain the concept of physician/patient confidentiality and how it demands privacy and security measures to protect health information	2	• Physician/patient relationship • Trust • Comfort • Confidentiality • Safeguards (disclosures, HIPAA, Hippocratic Oath, etc.) o Physical and automated/electronic Privacy and security safeguards (passwords, pins, accessibility, physical safeguards)
Foundational	17.2 Apply health information laws, regulations, standards and best practices related to information protection	3	• International, National and Regional safeguards (e.g., HIPAA, Record Retention, The Joint Commission (TJC), AHIMA, Centers for Medicare and Medicaid Services (CMS)* o AHIMA Code of Ethics*
Foundational	17.3 Apply retention and destruction policies for health information	3	• International, National and Regional safeguards/standards (e.g., Record Retention, The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), AHIMA) • Factor of age • Facility closure • Outsourced companies/business associates

Advanced	17.1 Design a privacy and security infrastructure	6	• International, National, and Regional privacy and security laws and regulations • Information governance: protection • HIT standards for HIM practices • Risk assessment, evaluation, and management
Advanced	17.3 Integrate privacy and security standards in the organisation	6	• International, National and Regional laws and standards as appropriate for country o HIPAA regulation* o FDA regulation* o Stark Laws • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
Advanced	17.4 Lead the implementation of risk assessment, contingency planning, and data recovery procedures	6	• Information governance: availability, retention, disposition, integrity, protection, compliance, audit, transparency • HIT standards for HIM practices • Case risk analysis, mitigation, and management • Breach analysis and notification requirements
Advanced	17.5 Oversee the security and privacy implications of mobile health technologies	5	• Information governance: protection • PHI/breaches • Identity theft • Patient portals • Organisational policy • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices

Advanced	17.6 Develop educational programs for employees in privacy, security, and confidentiality	6	• Information governance: protection, compliance, audit • In-service programs for employees • Ethics training • Code of Ethics • Organisational policy • Health information systems interoperability (semantic, technical functional) • HIT standards for systems interoperability • Identifier standards • Privacy and security standards (ISO TC215) • HIT standards for HIM practices
18.0 Information Security Strategy and Management: Define and make applicable a formal organisational strategy, scope, and culture to maintain safety and security of information including protected health information from external and internal threats (i.e., digital forensic for corporate investigations or intrusion investigation) and provide a platform for information security management where security policies are implemented and continuously monitored/enhanced.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	18.1 Explain the concept of a system risk assessment	2	• Risk assessment • Measures to assess risk • Purpose/benefits • Local, Regional and International standards/policies
Foundational	18.2 Outline the life-cycle of security strategy	2	• System Development Life Cycle (SDLC)/ System Life Cycle (SLC) • Security plan/strategy • Security Measures • Project Management/team/committee
Advanced	18.1 Integrate expertise external standards and best practices	6	• Information governance: compliance and protection • HIT standards for HIM practices • Evidence-based policy and practice evaluations
Advanced	18.2 Provide strategic leadership to embed information security into the culture of the organisation	6	• Information governance: compliance and protection • HIT standards for HIM practices • Organisational culture considerations • Approaches to achieving buy-in • Collaboration and effective uses of committees
Advanced	18.3 Lead organisational initiatives related to integrity, confidentiality and availability of data stored on information systems and comply with all legal requirements	6	• Staff training and development • Leadership concepts • Information governance principles • HIT standards for HIM practices

19.0 Organisational Management and Leadership: Oversight and management of a department or organisation applying processes of organizing, planning, leading, decision-making, and controlling resources in alignment with the overall business direction and strategic priorities of the organization. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	19.1 Explain how a culture of compliance supports the protection of health information	2	• Office of Inspector General (OIG)* • Corporate compliance • Mission, vision and values • Auditing/Monitoring • Compliance training • Compliance guidelines, plan, policies, standards • AHIMA Code of Ethics*
Foundational	19.2 Define management; management functions, roles, and skills	1	• Management Principles • Leadership versus management • Characteristics of a manager o Traits (problem solver, decision maker, organizer, coach, and motivator)
Foundational	19.3 Explain management principles	2	• Management theories • Self-awareness
Advanced	19.1 Implement health information policies	3	• Policy guidelines • International, National and Regional laws and standards • Information governance • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Communication plan
Advanced	19.2 Build sustainable strategic business alliances, networks, and partnerships	6	• Negotiation, mediation, arbitration skills • Communication skills • Critical thinking skills • Social and emotional intelligence skills • Creative thinking skills • Entrepreneurship
Advanced	19.3 Analyse and apply leadership principles and concepts in the healthcare environment	4	• Leadership styles & Management styles • Behaviour modelling
Advanced	19.4 Evaluate emotional intelligence and relationship building techniques to advocate high quality outcomes within a healthcare setting	5	• Organizational culture and climate • Change management • Motivation

Advanced	19.5 Determine innovative and creative strategies for healthcare delivery	5	• 80/20 system • Evidence based practice • Insight/foresight
Advanced	19.6 Develop visions and goals that facilitate continuous quality improvement within the healthcare setting	6	• Forecasting • Strategic planning • Information governance • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Evaluation of outcomes • Quality Management Programs
20.0 Project Management: Interpret, lead, and apply principles and procedures related to project management that help control the activities associated with implementing a large undertaking to achieve a specific goal including planning and organizing, creating structured plans, project definitions, establishing time scales and milestones, tracking and analysis, revisions, change controls, and communication. Ensure optimization of activities and			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	20.1 Summarize the importance of accountability for meeting timeline requirements to complete projects by the assigned deadlines	2	• Project Management o Project Planning o Progress Monitoring • Schedule/calendar • Organisation • Time management • Deadlines/due dates • Delegation of task and assignments • Responsibility
Foundational	20.2 Outline project, project management and project roles	2	• Project management • Team assignments/titles • Team charter • Agenda • Purpose
Advanced	20.3 Develop collaborative alliances and partnerships to effectively manage complex projects	6	• Professional networking • PMP Certification • Team building • Stakeholder input • Modification management
Advanced	20.4 Evaluate applied research tools and methods to integrate best practices in project planning and management	5	• Contingency planning • Project management principles

21.0 Purchasing and Contracting: Apply consistent procurement procedures to ensure that the entire purchasing process is fit for purpose, adds business value to the organisation in compliance with legal and regulatory requirements. Define, validate, and make applicable service level agreements (SLA) and contracts for health information related products and services.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	21.1 Recognize the importance of a structured purchasing approach to facilitate cost effective and efficient healthcare processes	2	• Purchase budget • Planning • Communication
Foundational	21.2 Explain objectives and principles of purchasing management	2	• Purchasing/procurement • Contracts • Supplies and treatments • Vendors
Advanced	21.1 Lead application of the organisation's procurement policies and enhancements	6	• System acquisition and evaluation • RFI, RFP • Policy and procedure development • Development of procurement manual • Procurement measures/auditing tool
Advanced	21.2 Develop negotiation skills related to contracts and/or service level agreement	6	• Contract management process • Negotiation strategies • Effective communication and listening • Awareness of Business/HIM Ethics • Bargaining techniques • Financial analysis/feasibility
Advanced	21.3 Design comparative research models for vendor solutions	6	• Benchmarking • Environmental scanning • Exploration of comparative research models • Decision matrix (vendor selection)
22.0 Quality Management: Define, implement, and refine a formal strategy related to the quality of healthcare services and delivery, performance of business units or products (including ICT), and adherence with standards developed by external organisations. Implement quality policies to maintain and enhance service and product provision. Review quality performance indicators/measures and recommend enhancements to influence continuous quality improvement. Identify quality management accountability. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	22.1 Apply existing standards to conduct quality audits	3	• Information governance: integrity and audit • HIT standards for HIM practices • Information systems interoperability (semantic, technical, functional) • Authoritative sources of quality International, National and Regional standards
Foundational	22.2 Explain the basic quality management concepts	2	• Measurement • Plan, Do, Check/Study, Act • Performance improvement principles
Advanced	22.1 Assess the degree to which quality requirements have been met	5	• Information governance: availability, integrity, retention and protection • HIT standards for HIM practices including CDI practice standards • Regulatory impact analysis • Continuous performance • Improvement initiative
Advanced	22.2 Lead quality policy implementation	6	• Information governance: availability, integrity, retention and protection • Infection prevention and control • Continuous quality improvement (CQI) • Patient safety • Organisational culture • Project management • Implementation • Policy and procedure development
Advanced	22.3 Lead setting quality standards across cross functional units	6	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical. and functional) • HIT standards for systems interoperability • Outcomes measurement • Population health management • Predictive analytics • Root cause analysis • Organisational culture • Cultural competency/diversity • Assess/benchmark • Communication • Train/education • Monitor, evaluate, recommend

Advanced	22.4 Utilize external quality standards and best practices	3	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices including CDI practice standards • Benchmarking • Evidence-based care • Triple aim • Implementation/integration • Interpretation and communication
Advanced	22.5 Lead organisational strategy to embed quality (i.e., metrics and continuous improvement) into the culture of the organisation	6	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Patient safety • PDSA models • Lean/Six Sigma models • Statistical process control techniques
Advanced	22.6 Evaluate and recommend improvements to systems for quality maintenance and consistent outcomes within the healthcare setting	5	• Information governance: availability, integrity, retention, and protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Patient registration, admission, discharge, transfer • Patient management • Lab, radiology, pharmacy • Clinical decision support • Computerized provider order entry • Encoder • Patient financial services • Budget/general ledger • Cost accounting

Advanced	22.7 Oversee organisation accreditation status and demonstrate continuous improvement in a health service using internal and external data for benchmarking	5	• Medical staff committees • Medical staff credentialing • Administrative committees • Plan, Do, Check/Study, Act • Favourable trends over time • Data-driven • Evidence-based • Across continuum of care • Longitudinal (over patients' lifetime)
23.0 Research Design and Methods: Conduct, participate in and/or support health-related research aimed at systematically investigating and studying material and sources to establish facts and new information about a subject. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	23.1 Describe the concept of research	2	• Learning Health Systems • The concept of research • Research terminology • Research impact on outcomes • Institutional Review Board • Research Ethics Committees
Foundational	23.2 Summarize the objectives and basic types of research	2	• Objectives of research • Types of research o Qualitative o Quantitative o Mixed Methods
24.0 Risk Management: Implement the analysis and management of risk across information systems through the application of the enterprise defined risk management policy and procedure. Assess risk to the organisation's business, and document potential risk and containment plans.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	24.1 Collect data from health information data sources used for risk management reporting	2	• Basic data collection
Foundational	24.2 Organize data for risk management reporting	3	• Risk reporting mechanisms
Foundational	24.3 Explain principles of risk management	2	• Loss reduction • Loss prevention

Foundational	24.4 Discuss the importance of risk assessment and management in healthcare	2	• Risk assessment • Liability • Compliance
Advanced	24.1 Develop and maintain a risk management program	6	• Information governance: protection • HIT standards for HIM practices • Information systems interoperability (semantic, technical, and functional) • HIT standards for systems interoperability • Risk management for software applications • Compliance strategies and policies • Risk management/patient safety • Risk analysis • Mitigation • Incident reporting processes • Stakeholders and collaboration • Practice standards/guidelines • Purpose/need • Organisational mission, vision, values • Project leadership requirements • Software applications/tools • Risk reporting • Training/education/in-service education
25.0 Standards for Data Content, Health Information Exchange, and Interoperability: Knowledge and application of health information technology standards for data content, health information exchange, and interoperability to facilitate an infrastructure where systems and applications can exchange data.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	25.1 Explain business and IT standards for healthcare	2	• HIT standards • Data standards (vocabularies and terminologies, structures, and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215)

Foundational	25.2 Explain HIT standardization process	2	• Standards development organization and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products): • Needs identification (use cases) • Standards development (individual standards) • Standards selection and harmonization (interoperability specifications) • Standards testing (testing statements) • Standards-based HIT product certification (certificate) • Standards-based HIT product adoption (software applications)
Foundational	25.3 Explain health information systems interoperability	2	• Health information systems (EHR systems, EMR systems, Laboratory information management systems (LMIS), Pharmacy information systems, public health information systems, PHR, mobile health applications) • Health information systems interoperability o Semantic o Technical o Functional • HIT standards for systems interoperability (ISO TC215)
Foundational	25.4 Illustrate understanding of HIT standards for systems interoperability and information exchange	2	• Case Studies • Health information exchange • Public health reporting • Quality measure reporting • Research • Population health analysis
Foundational	25.4 Explain data standards for healthcare	2	• Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM), HL7 CDA, HL7 FHIR, and other)
Foundational	25.5 Describe methods for data integration and semantic interoperability	2	• Data mining (NLP) • Content generation standards (SQL, IHE RFD, SDC) • Standards for semantic content (ISO TC215) and other
Intermediate	25.4 Identify and communicate needs for HIT standards and systems interoperability in the organization	3	• Stakeholder engagement • Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP and other • HIT standardization phases (products) • Needs identification (use cases)

Intermediate	25.5 Manage implementation of HIT standards-products and systems interoperability in the organization	5	• HIT standards-based products that support • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Information exchange standards (HL7, IHE) • Identifier standards • Privacy and security standards • Functional standards (use cases) • Business standards (HIM practices) • Interoperability standards (ISO TC215) • HIT systems interoperability (semantic, technical and functional) • Evaluation of implementation of standards-based, interoperable HIT systems
Intermediate	25.6 Utilize terminological resources and tools for semantic interoperability	3	• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC, and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other
Advanced	25.1 Apply knowledge of interoperability and HIT standards to lead deployment of standards-based interoperable HIT solutions	3	HIT systems interoperability (semantic, technical, and functional) • HIT standards • HIT standardization phase: deployment
Advanced	25.2 Interpret terminologies, vocabularies and classification systems	5	• SNOMED CT • LOINC • ICD • UMLS • Metadata • Primary and secondary uses
Advanced	25.3 Construct examples of mapping of clinical vocabularies and terminologies to appropriate classification systems	6	• ICD-10-CM/PCS to ICD-11-CM/PCS • ICD-11-CM/PCS to SNOMED CT • Mapping between disease classifications

Advanced	25.4 Apply knowledge of interoperability and HIT standards to participate in standards development activities	3	• Standards development organizations and data content committees: ANSI, ISO TC215, IHE, HL7, IHTSDO, LOINC, ICD, NCPDP, and other • HIT systems interoperability (semantic, technical and functional) • HIT standards • HIT standardization phases: needs identification, standards development, standards selection and harmonization, standards testing, standards-based product certification and deployment
Advanced	25.5 Lead the deployment of terminological resources and tools for semantic interoperability		• HIT systems interoperability (semantic, technical, and functional) • HIT standards for semantic content • Data standards (vocabularies and terminologies, structures and coding systems) (ICD, SNOMED CT, LOINC and other) • Information content standards (reference information models (HL7 RIM, HL7 CDA, HL7 FHIR) • Functional standards (use cases) • Business standards (clinical guidelines, HIM practices) • Semantic content standards (ISO TC215) • Tools for content management and semantic interoperability (IHE Art Decor, CAP eCC*, CDISC Share and other • Information governance: availability and integrity
26.0 Strategic Planning: Align the organisation's information and information system priorities with established priorities, resources, common goals, and intended outcomes/results. Anticipate long-term business requirements and determine that the information governance and information system model is in line with organisation policy. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	26.1 Explain the strategic planning process	2	• Stakeholder needs assessment • Strategic plan process: formalized roadmap • Mission, vision, values, purpose • Executive summary • Financial components • Communication plan • SWOT analysis, goals, feedback
Foundational	26.2 Explain business needs for interoperability and standards-based HIT solutions	2	• Information governance • HIT systems interoperability (semantic, technical, and functional) • HIT standards

Advanced	26.2 Evaluate healthcare policy-making's direct and indirect impact on national and global healthcare delivery systems	5	• Policy making body of knowledge • International, National, and Regional laws and standards • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.3 Design enterprise-wide strategic planning research models and methods	6	• Performance improvement models • Business intelligence • Evidence based practice • Epidemiological research methods • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.4 Propose innovative, healthcare policies for national or global healthcare delivery system	6	• International, National, and Regional initiatives and guidelines o Healthy People 2020* o WHO o IOM reports* o CDC* • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.5 Lead the construction and implement long-term innovative information governance and Information system solutions	6	• Information governance • Organisational strategy for operations • Internal/external stakeholders • Collaboration • HIT systems interoperability (semantic, technical, and functional) • HIT standards
Advanced	26.6 Promote consensus and commitment of the management team of the enterprise	3	• Professional networking • Marketing strategies • Strategic positioning • Negotiation skills • Political navigation skills • Communication plan
27.0 Training and Development: Design, implement, evaluate, and manage a plan designed to assist a department and/or organisation identify training needs of an employee or employee group.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**

Foundational	27.1 Apply the techniques for adult training and learning	3	• Communication • Learning styles • Job description • Job-related policies and procedures • Orientation • Performance standards • Performance evaluations • Career plan
Advanced	27.1 Model the training and professional development program	6	• Professional development • Needs assessment • Flow chart/work charts (tools/guides) • Education plan; instructional models and theories
Advanced	27.2 Manage training and education schedules to meet market needs	5	• Communication • Planning/organisation • Time management • Needs assessment • External market scan/benchmark
Advanced	27.3 Design, evaluate and manage training programs for the appropriate management of health information	6	• Mock In-service education/training • User Needs • Measuring effectiveness • Survey/Questionnaires
28.0 Work Design and Process Improvement: Conduct workflow analysis for the purpose of improving processes and outcomes. Develop approaches to redesign workflow to achieve improvements.			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	28.1 Collaborate with stakeholders throughout the organisation to demonstrate understanding of the importance of human cooperation in improving processes	4	• Workflow diagrams • Staffing, space, equipment, supplies
Foundational	28.2 Summarize work process in healthcare	2	• Purpose of workflow and process analysis • Steps involved in workflow and process analysis
Advanced	28.3 Evaluate process improvement outcomes	5	• Benchmarking • Employee feedback/input • Analysis • Monitoring • Evaluations • Tools of measurement

Advanced	28.4 Create metrics for benchmarking and reporting	6	• Benchmarking process • Cost benefits analysis • Target measure establishment and evaluation • Process mapping tools • Analytical tools
29.0 Healthcare Delivery Systems: Understand the healthcare delivery system and international comparisons to give context to the learning program. The roles and responsibilities of key players within the health care network are discussed along with healthcare policy and strategies for provision of primary healthcare and the current and future challenges for the healthcare delivery system. * represents country-specific examples			
Level	**Competency**	**Bloom's Level**	**Curricular Considerations**
Foundational	29.1 Demonstrate knowledge of the local healthcare system, challenges, innovations, initiatives	3	• Local, regional, and national healthcare systems • Public health and health service infrastructure • Health policy concepts • Economic and social concepts of health and health services
Foundational	29.2 Recognize healthcare workers and their roles	2	• Interprofessional education; collaborative practice • Types of health professionals • Certification and registration among health professionals
Foundational	29.3 Identify national and international public health entities and how they relate to the organisation	2	• WHO; country or region specific agencies
Foundational	29.4 Describe public health concepts	2	• Health promotion • Epidemiology • Public policy • Social, economic, and political influences upon health
Advanced	29.3 Design and implement health information management system to support public health needs	6	• Jurisdictional and national laws, regulations, and policies to protect the health of the public • Public health reporting • Needs assessment techniques • Stakeholder identification
Advanced	29.4 Assess population based community health information system	5	• Research information systems • Information governance principles for research • Comparative-effectiveness research principles • Epidemiological research studies development • Needs assessments techniques

Advanced	29.5 Implement health information system applications to streamline the process of public healthcare service delivery	5	• Health information systems • Health information exchange • Information governance • Information systems interoperability (semantic, technical; and functional) • HIT standards • Mobile applications • Consumer-facing health information technologies such as patient portals
Advanced	29.6 Apply public health surveillance and response using various information systems and analytical tools including GIS	3	• Jurisdictional and national laws, regulations, and policies to protect the health of the public • Public health reporting • Information governance • Information systems interoperability (semantic, technical; and functional) • HIT standards • Data analytics • Visualization tools

Appendix J: Common Abbreviations/Acronyms used throughout the curricula competencies guide

Acronym	Definition	Acronym	Definition
ACA	The Affordable Care Act actually refers to two separate pieces of legislation — the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010	IDL	Interface Definition Languages
ACO	Accountable care organization - a healthcare organization characterized by a payment and care delivery model that seeks to tie provider reimbursements to quality metrics and reductions in the total cost of care for an assigned population of patients	IG	Information Governance
ACS	American College of Surgeons	IHE	Integrating the Healthcare Enterprise - an initiative by healthcare professionals and industry to improve the way computer systems in healthcare share information
ADA	Americans with Disabilities Act	IHTSDO	International Health Terminology Standards Development Organisation
ADT	Admission, Discharge and Transfers	IFHIMA	International Federation of Health Information Management Associations
AHIMA	American Health Information Management Association	IMIA	International Medical Informatics Association
AHRQ	Agency for Healthcare Research and Quality	IRB	An institutional review board (IRB), also known as an independent ethics committee (IEC), ethical review board (ERB) or research ethics board (REB), is a committee that has been formally designated to approve, monitor, and review biomedical and behavioural research involving humans
AMA	American Medical Association	IS	Information System
AMT	Australian Medicines Terminology	ISM	Information System Management
ANOVA	Analysis of variance (ANOVA) is a collection of statistical models used in order to analyse the differences between group means and their associated procedures (such as "variation" among and between groups), developed by R. A. Fisher	ISO	International Organisation for Standardization
ANSI	American National Standards Institute	ISO-9000	The ISO 9000 family of quality management systems standards is designed to help organizations ensure that they meet the needs of customers and other stakeholders while meeting statutory and regulatory requirements related to a product
APC	Ambulatory Payment Classification	ISO TC215	The ISO/TC 215 is the International Organization for Standardization's (ISO) Technical Committee (TC) on health informatics. TC 215 works on the standardization of Health Information and Communications Technology (ICT), to allow for compatibility and interoperability between independent systems
ARRA	The American Recovery and Reinvestment Act of 2009, commonly referred to as the Stimulus or The Recovery Act	IT	Information Technology

Appendix J: Common Abbreviations/Acronyms used throughout the curricula competencies guide

Acronym	Definition	Acronym	Definition
ASTM	ASTM International, known until 2001 as the American Society for Testing and Materials (ASTM), is an international standards organisation that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and service	KSA	Knowledge, skills and abilities
ATC	AnatomicTherapeutic Chemical-Classification System	LEAN	LEAN manufacturing or lean production, often simply "lean", is a systemic method for the elimination of waste
C++	General purpose programming language	LOINC	Logical Observation Identifiers Names and Codes is a database and universal standard for identifying medical laboratory observations
CAC	Computer Assisted Coding	LOS	Length of Stay
CAP eCC	CAP electronic Cancer Checklists (eCC)	LTC	Long-term care
CARF	Council on Accreditation of Rehabilitative Facilities	MOH	Ministry of Health
CCC	Clinical Care Classification	MDCP	Market Development Cooperator Program
CDC	Centers for Disease Control and Prevention	MSDRG	Medicare Severity Diagnosis Related Group
CDI	Clinical Documentation Improvement	NIH	National Institutes of Health (US)
CDISC SHARE	CDISC SHARE is a metadata repository that supports the development, governance, publishing, and consumption of the CDISC standards in human and machine-readable formats.	NHS	National Health System (UK)
CDSS	Clinical Decision Support Systems	NCCI	National Council on Compensation Insurance. The United States' most experienced provider of workers compensation information, tools, and services
CDR	Clinical Data Repository	NCHS	National Center for Health Statistics
CHAP	Community Health Accreditation Partner	NCHVS	National Center for Health Vital Statistics
CITI	Collaborative Institutional Training Initiative (CITI) Program provides research ethics education to the research community	NCQA	National Committee of Quality Assurance
CMS	Centers for Medicare and Medicaid Services	NPL	Natural Language Processing
CPOE	Computerized Physician Order Entry	OASIS	Outcome and Assessment Information Set
CPT	Current Procedural Terminology	OCM	Organizational Change Management
CQI	Continuous Quality Improvement	OIG	Office of the Inspector General
CRM	Customer Relationship Manager	OODA Loop	OODA loop refers to the decision cycle of observe, orient, decide, and act
DBMS	Database Management System	PAC	Picture Archiving Communication system
DEEDS	Data Elements for Emergency Department Systems		
dm+d	Dictionary of Medicines and Devices	PDCA	Plan–do–check–act or plan–do–check–adjust - an iterative four-step management method used in business for the control and continuous improvement of processes and products. Also known as the Deming circle/cycle/wheel, Shewhart cycle, control circle/cycle, or plan–do–study–act (PDSA)
DMAIC	Define, Measure, Analyse, Improve and Control	PHI	Protected Health Information
DNR	Do Not Resuscitate	PI	Process Improvement

Appendix J: Common Abbreviations/Acronyms used throughout the curricula competencies guide

Acronym	Definition	Acronym	Definition
DNV	DNV Healthcare Inc. is a provider of hospital accreditation, infection risk management and standards development	PHR	Personal Health Record
DIS	Document Imaging System	PMP	Project Management Professional certification
DOC	United States Department of Commerce	PPS	Prospective Payment System
DRG	Diagnosis Related Group	QI	Quality Improvement
DSM	Diagnostic and Statistical Manual	QI/PI	Quality Improvement/Performance Improvement
EDI	Electronic Document Imaging	RAC	Recovery Audit Contractors
EEOC	The U.S. Equal Employment Opportunity Commission (EEOC) enforces the employment provisions of the ADA	RAD	Rapid Application Development
EHR	Electronic Health Record	RBRVS	Revenue Based Relative Value Scale
ELKI	Data Mining and Statistics Framework	RFD	
EMR	Electronic Medical Record	RFI	Radio Frequency Identification
EPI	Epidemiologic Statistical Analysis Software	RFI	Request for Information
ER	Emergency Room (ED – Emergency Department)	RFP	Request for Proposal
EDW	Enterprise Data Warehouse	RHIO	Regional Health Information Organization
FDA	U.S. Food and Drug Administration	ROI	Return on Investment
FHIR	Fast Healthcare Interoperability Resources	ROOT	Object-oriented program for data analysis
GHWC	Global Health Workforce Council	RUGs	Resource utilization groups
GINA	Genetic Information Non-discrimination Act of 2008. An Act of Congress in the U.S designed to prohibit the use of genetic information in health insurance and employment	RxNorm	RxNorm provides normalized names for clinical drugs and links its names to many of the drug vocabularies commonly used in pharmacy management
GIS	Geographical Information Statistical Analysis Software	SAS	Statistical Analysis Software
GP	General Practitioner	SDC	System design cycle
HCPCS	Healthcare Common Procedure Coding System	SDLC	Systems Development Life Cycle
HEDIS	The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service	SLC	Systems Life Cycle
HI	Health Informatics	SNOMED-CT	The most comprehensive and precise clinical health terminology product in the world, owned and distributed around the world by The International Health Terminology Standards Development Organisation (IHTSDO)
HICT	Health Information and Communication Technologies	SPSS	Statistical Analysis Software
HIE	Health Information Exchange	SQL	Structured Query Language
HIM	Health Information Management	STARK	Stark violation for doctors/physicians, hospitals, and all other healthcare providers (or their immediate family members) to benefit financially for making patient referrals for any designated health services (DHS) for any Medicare/Medicaid recipient.

Appendix J: Common Abbreviations/Acronyms used throughout the curricula competencies guide

Acronym	Definition	Acronym	Definition
HIPAA	Health Insurance Portability and Accountability Act	STATA	Data Analysis and Statistical Software for Professionals
HIS	Health Information System	SWOT	Strengths, Weaknesses, Opportunities, Threats
HITECH	The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009, was signed into law on February 17, 2009, to promote the adoption and meaningful use of health information technology	TJC	The Joint Commission (US)
HL7	Health Level Seven International (both a standard and an organisation)	UCUM	Unified Codes for Units of Measure
HR	Human Resources	UHDDS	Uniform Hospital Discharge Data Set
HTML	Hyper Text Markup Language	UML	Unified Modelling Language
ICD	International Classification of Diseases	URAC	Formerly known as the Utilization Review Accreditation Commission, is a non-profit organization that aims to promote healthcare quality by accrediting healthcare organizations
ICD-O	International Classification of Diseases-Oncology	VBP	Value Based Proposition
ICF	International Classification of Functioning, Disability and Health	WEKA	Data Mining and Statistics Software
ICDA	International Classification of Diseases. Adapted for Use in the United States; includes a classification of surgical operations and other therapeutic and diagnostic procedures	WHO	World Health Organisation
ICS	Irish Computing Society	XML	EXtensible Markup Language
ICT	Information and Communications Technologies		

Appendix K: Professionalism and Common Employability Skills

Professionalism and Common Employability Skills
Demonstrate effective interpersonal skills including listening, oral and written communication skills.
Demonstrate the ability to be a team player
Recognise limits to knowledge and know how to go about finding needed information
Demonstrate information literacy
Demonstrate leadership skills (as well as team building skills)
Demonstrate advocacy skills
Demonstrate effective interpersonal skills including listening, oral and written communication skills.
Facilitate effective communication between various healthcare stakeholders and disciplines
Participate in the health information environment through association membership and/or credentialing, certification, continuous education
Apply strategies and techniques to facilitate the adoption of health information tools
Demonstrate effective change management and problem solving skills in relation to the implementation of health information related processes and projects
Apply critical thinking skills to non routine problems

Appendix L: Supporting Body of Knowledge (Pre-requisites or Evidence of Knowledge)

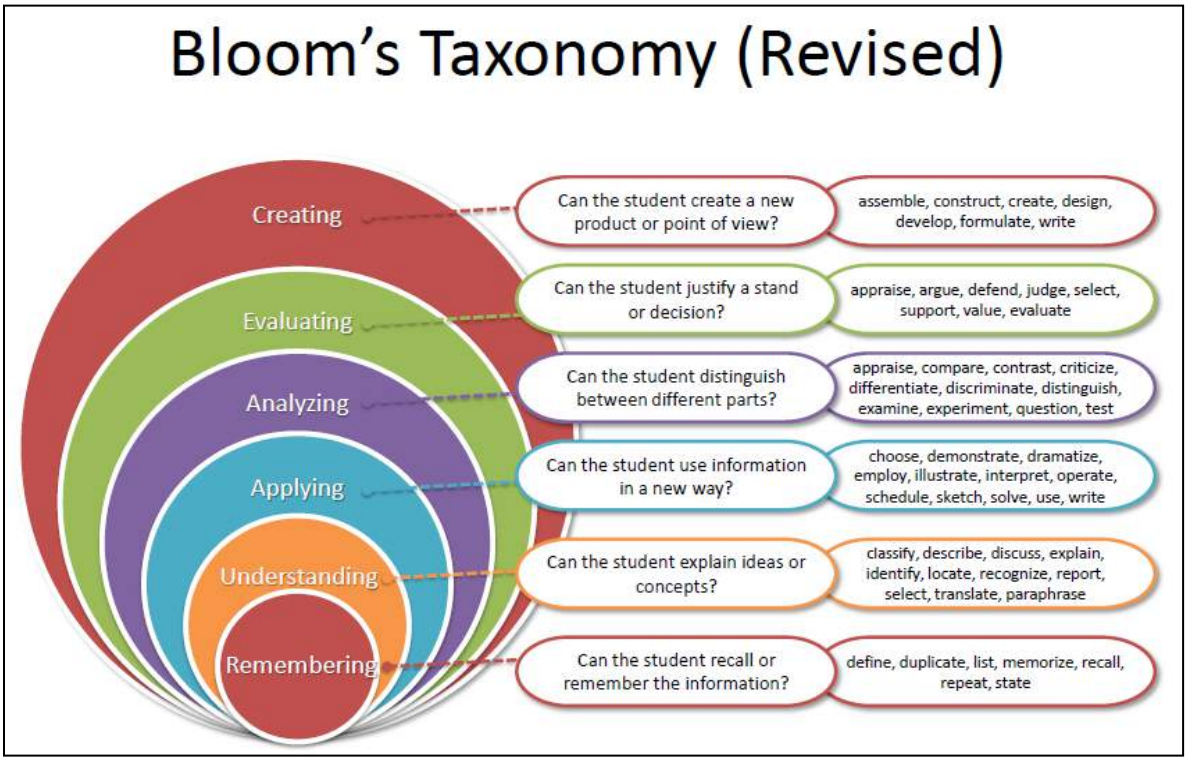
While the global curricula modules identify the health information-specific competencies, the GHWC recognises the need for other pre-requisite (foundational) knowledge. This table identifies the supporting body of knowledge needed and seeks comments on the topic, academic level and/or health information professional area (e.g., HIM, HI, HICT).

SUPPORTING BODY OF KNOWLEDGE (PRE-REQUISITE OR EVIDENCE OF KNOWLEDGE) BY ACADEMIC LEVEL		
Basic	**Intermediate**	**Advanced**
Communication	Communication	Communication
Pathophysiology and Pharmacology	Pathophysiology and Pharmacology	Pathophysiology and Pharmacology
Anatomy and Physiology	Anatomy and Physiology	Anatomy and Physiology
Medical Terminology	Medical Terminology	Medical Terminology
Computer Concepts and Applications (basic computer literacy skills requirements)	Computer Concepts and Applications ((basic computer literacy skills requirements	Computer Concepts and Applications ((basic computer literacy skills requirements)
Mathematics (numerical mathematics)	Mathematics (algebra, analysis, logic, numerical mathematics, probability theory and statistics, cryptography)	Mathematics (algebra, analysis, logic, numerical mathematics, probability theory and statistics, cryptography)

Appendix M: Use of Bloom's Taxonomy

Bloom's Taxonomy has three specific domains: cognitive, affective, and psychomotor. The cognitive domain used within this document has six levels: 1) remembering, 2) understanding, 3) applying, 4) analysing, 5) evaluating, and 6) creating. This hierarchical structure enables educators to develop learning objectives and assessments based upon an appropriate cognitive level. Examples of the types of skills found within each level are shown in the chart and diagram below.[1]

BLOOM'S TAXONOMY Revised for Global Curricula Mapping[2]			
Level	**Category**	**Definition**	**Verbs**
1	Remember	Recall facts, terms, basic concepts of previously learned material	Choose, Define, Find
2	Understand	Determine meaning and demonstrate clarity of facts and ideas	Collect, Depict, Describe, Explain, Illustrate, Recognise, Summarize
3	Apply	Use differing methods, techniques and information to acquire knowledge and/or solve problems	Adhere To, Apply, Demonstrate, Discover, Educate, Identify, Implement, Model, Organise, Plan, Promote, Protect, Report, Utilize, Validate
4	Analyse	Contribute to the examination of information in part or aggregate to identify motives and causes	Analyse, Benchmark, Collaborate, Examine, Facilitate, Format, Map, Perform, Take part In, Verify
5	Evaluate	Make judgments in support of established criteria and/or standards	Advocate, Appraise, Assess, Compare, Comply, Contrast, Determine, Differentiate, Engage, Ensure, Evaluate, Interpret, Leverage, Manage, Mitigate, Optimize, Oversee, Recommend
6	Create	Generate new knowledge through innovation and assimilation of data and information	Build, Compile, Conduct, Construct, Create, Design, Develop, Forecast, Formulate, Govern, Integrate, Lead, Master, Propose, Solve



[1] Additional Resources and References:
http://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/
http://epltt.coe.uga.edu/index.php?title=Bloom%27s_Taxonomy
http://ww2.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm
http://www.celt.iastate.edu/teaching-resources/effective-practice/revised-blooms-taxonomy/

[2] Layout for the levels and categories was adapted from Lorin W. Anderson and David R. Krathwohl's *A Taxonomy For Learning, Teaching, and Assessing,* Abridged edition, Allyn and Bacon, Boston, MA 2001.